

Figure 1

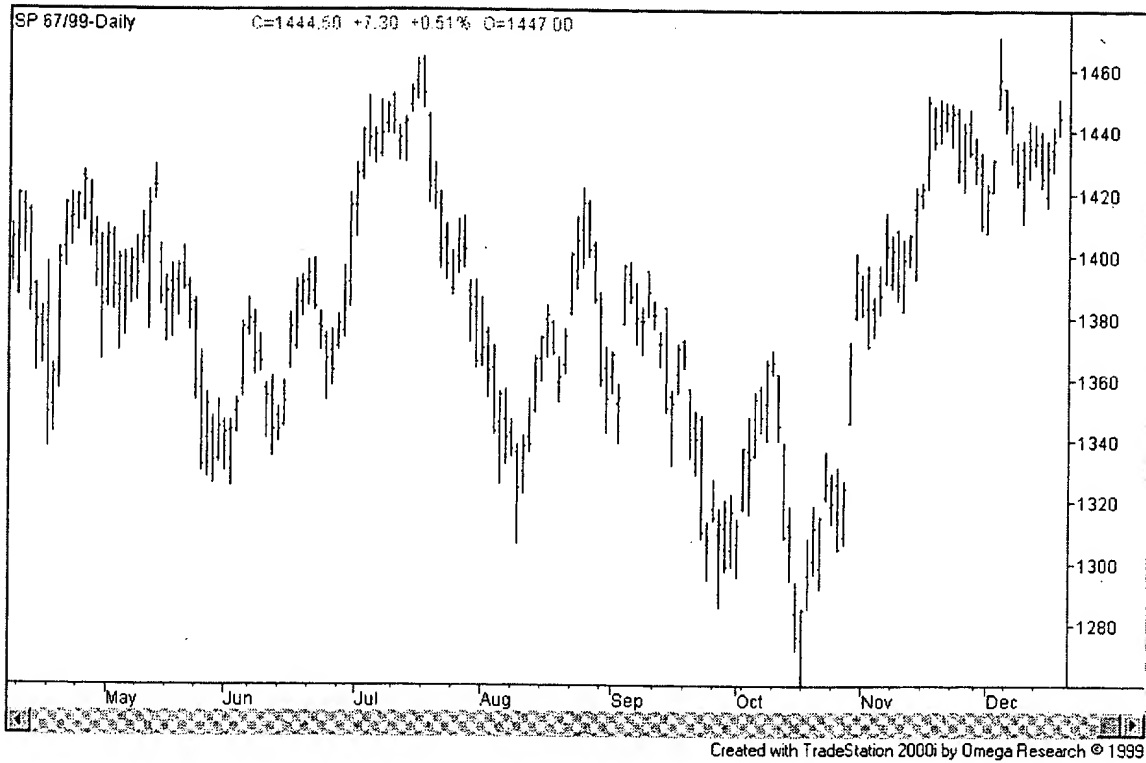


Figure 1 S&P 500 daily futures bar chart.

Figure 2

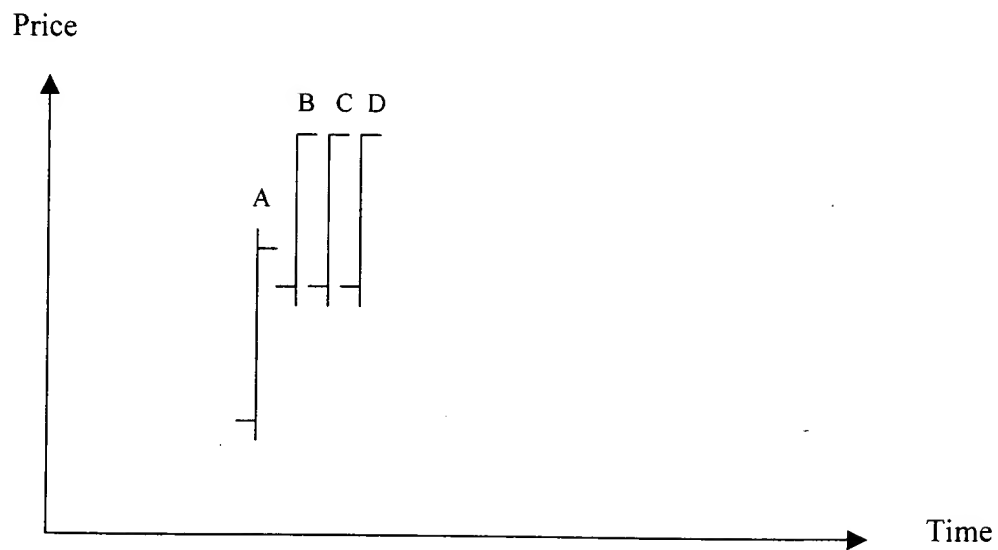


Figure 2 Four daily price bars.

Figure 3

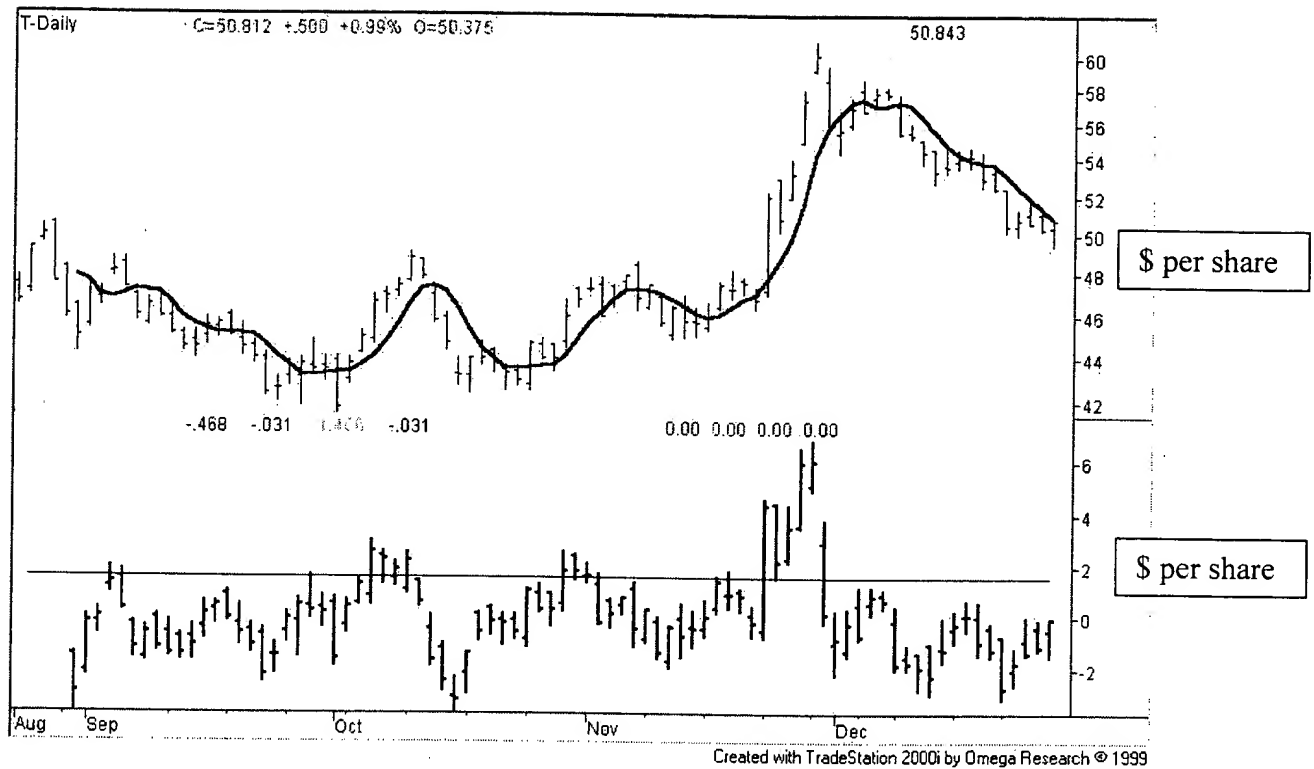


Figure 3 Daily AT&T price chart (top) and relative price chart (bottom).

Figure 4

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------|--------|--------|--------|--------|------------------|------------------|------------------|-----------------|-------------------|
| Date | Open | High | Low | Close | Floating Axis | Relative Open | Relative High | Relative Low | Relative Close |
| 990831 | 46.437 | 46.500 | 44.250 | 45.000 | 47.894 | -1.457 | -1.394 | -3.644 | -2.894 |
| 990901 | 45.500 | 47.625 | 45.375 | 47.375 | 47.575 | -2.075 | 0.050 | -2.200 | -0.200 |
| 990902 | 46.750 | 47.250 | 46.375 | 47.000 | 46.950 | -0.200 | 0.300 | -0.575 | 0.050 |
| 990903 | 48.000 | 48.750 | 47.812 | 48.125 | 46.800 | 1.200 | 1.950 | 1.012 | 1.325 |
| 990907 | 48.500 | 48.812 | 47.312 | 47.312 | 47.006 | 1.494 | 1.806 | 0.306 | 0.306 |
| 990908 | 46.937 | 47.000 | 45.687 | 46.000 | 47.200 | -0.263 | -0.200 | -1.513 | -1.200 |
| 990909 | 45.562 | 46.750 | 45.500 | 46.500 | 47.125 | -1.563 | -0.375 | -1.625 | -0.625 |
| 990910 | 47.000 | 47.125 | 45.812 | 45.875 | 47.056 | -0.056 | 0.069 | -1.244 | -1.181 |
| 990913 | 45.937 | 46.375 | 45.062 | 45.125 | 46.544 | -0.607 | -0.169 | -1.482 | -1.419 |
| 990914 | 45.125 | 45.250 | 44.312 | 44.500 | 45.887 | -0.762 | -0.637 | -1.575 | -1.387 |
| 990915 | 44.750 | 45.250 | 43.937 | 44.500 | 45.537 | -0.787 | -0.287 | -1.600 | -1.037 |
| 990916 | 45.000 | 45.937 | 44.562 | 45.500 | 45.362 | -0.362 | 0.575 | -0.800 | 0.138 |
| 990917 | 45.437 | 45.750 | 44.937 | 45.625 | 45.137 | 0.300 | 0.613 | -0.200 | 0.488 |
| 990920 | 46.000 | 46.125 | 45.000 | 45.062 | 45.106 | 0.894 | 1.019 | -0.106 | -0.044 |
| 990921 | 44.875 | 45.625 | 44.125 | 44.500 | 45.125 | -0.250 | 0.500 | -1.000 | -0.625 |
| 990922 | 44.562 | 44.812 | 43.750 | 44.000 | 45.062 | -0.500 | -0.250 | -1.312 | -1.062 |
| 990923 | 44.000 | 44.250 | 42.250 | 42.437 | 44.662 | -0.662 | -0.412 | -2.412 | -2.225 |
| 990924 | 42.625 | 43.125 | 42.000 | 42.625 | 44.106 | -1.481 | -0.981 | -2.106 | -1.481 |
| 990927 | 43.125 | 43.875 | 42.750 | 43.625 | 43.656 | -0.531 | 0.219 | -0.906 | -0.031 |
| 990928 | 43.125 | 44.000 | 41.812 | 43.750 | 43.262 | -0.137 | 0.738 | -1.450 | 0.488 |
| 990929 | 43.625 | 44.875 | 43.250 | 43.500 | 43.219 | 0.406 | 1.656 | 0.031 | 0.281 |
| 990930 | 43.625 | 44.125 | 42.937 | 43.500 | 43.275 | 0.350 | 0.850 | -0.338 | 0.225 |

Figure 4 Example calculations for generating the AT&T relative chart (figure 3).

Figure 5

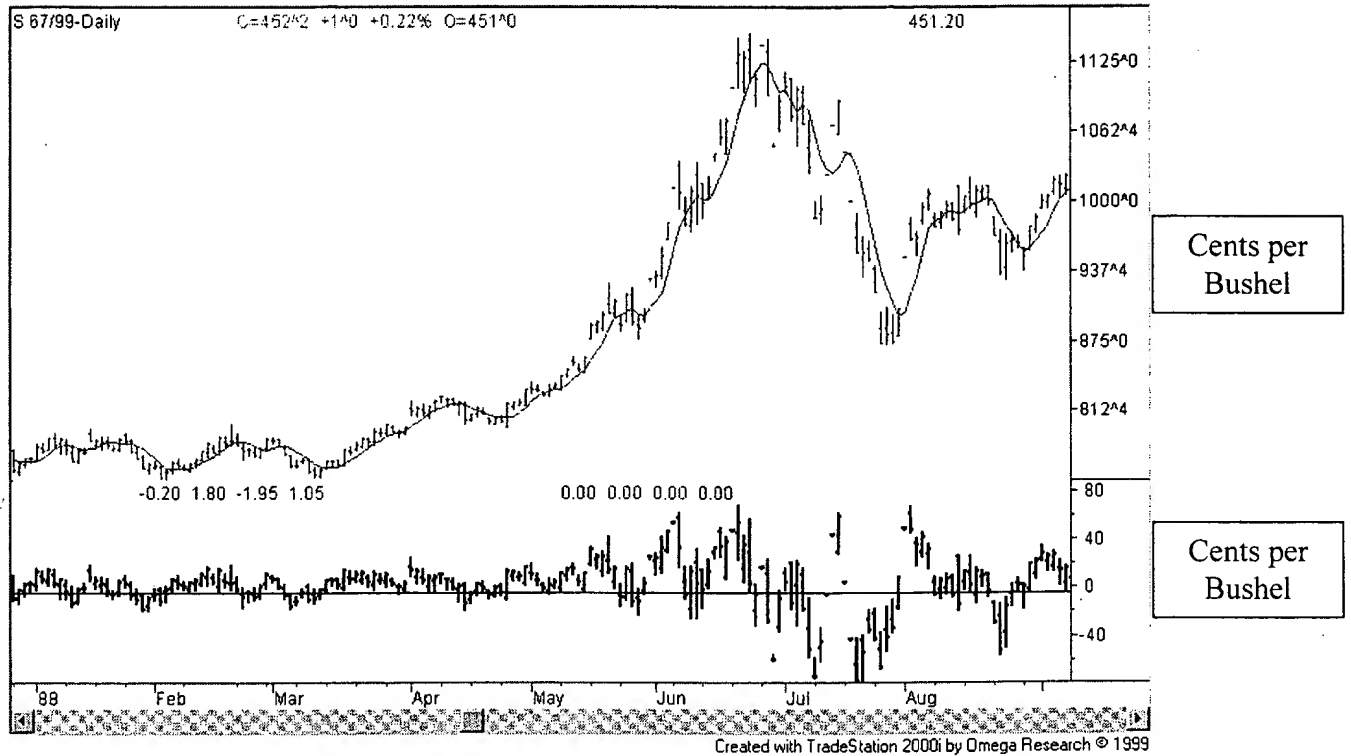


Figure 5 Daily Soybeans price chart (top) and relative price chart (bottom).

Figure 6

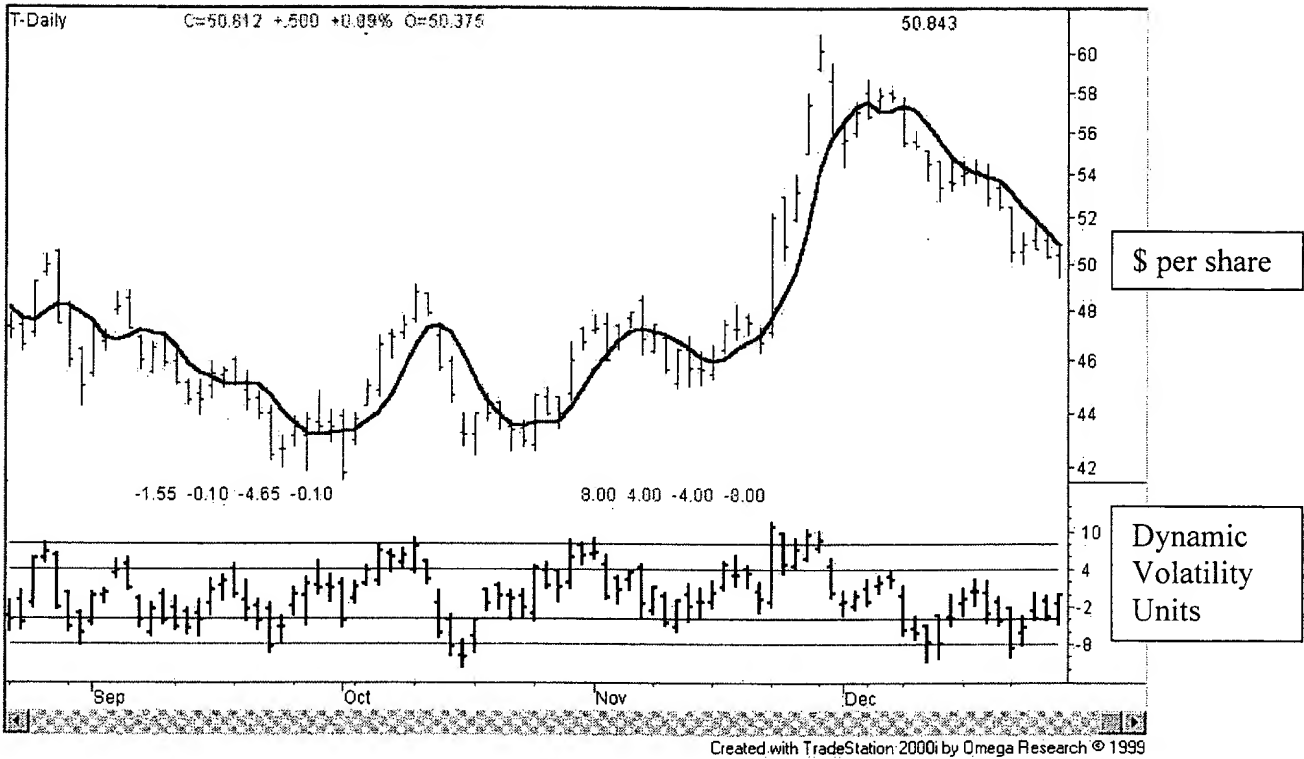


Figure 6 Daily AT&T price chart (top) and Value Chart™ (bottom).

Figure 7

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--------|--------|--------|--------|--------|---------------|-----------------|------------|------------|-----------|-------------|
| Date | Open | High | Low | Close | Floating Axis | Volatility Unit | Value Open | Value High | Value Low | Value Close |
| 990831 | 46.437 | 46.500 | 44.250 | 45.000 | 47.894 | 0.455 | -3.202 | -3.063 | -8.009 | -6.360 |
| 990901 | 45.500 | 47.625 | 45.375 | 47.375 | 47.575 | 0.445 | -4.663 | 0.113 | -4.944 | -0.449 |
| 990902 | 46.750 | 47.250 | 46.375 | 47.000 | 46.950 | 0.445 | -0.449 | 0.674 | -1.292 | 0.113 |
| 990903 | 48.000 | 48.750 | 47.812 | 48.125 | 46.800 | 0.368 | 3.266 | 5.307 | 2.754 | 3.606 |
| 990907 | 48.500 | 48.812 | 47.312 | 47.312 | 47.006 | 0.325 | 4.597 | 5.557 | 0.941 | 0.941 |
| 990908 | 46.937 | 47.000 | 45.687 | 46.000 | 47.200 | 0.288 | -0.914 | -0.695 | -5.262 | -4.173 |
| 990909 | 45.562 | 46.750 | 45.500 | 46.500 | 47.125 | 0.243 | -6.444 | -1.545 | -6.700 | -2.576 |
| 990910 | 47.000 | 47.125 | 45.812 | 45.875 | 47.056 | 0.260 | -0.215 | 0.265 | -4.784 | -4.542 |
| 990913 | 45.937 | 46.375 | 45.062 | 45.125 | 46.544 | 0.268 | -2.267 | -0.630 | -5.537 | -5.302 |
| 990914 | 45.125 | 45.250 | 44.312 | 44.500 | 45.887 | 0.245 | -3.110 | -2.600 | -6.428 | -5.661 |
| 990915 | 44.750 | 45.250 | 43.937 | 44.500 | 45.537 | 0.245 | -3.212 | -1.172 | -6.530 | -4.233 |
| 990916 | 45.000 | 45.937 | 44.562 | 45.500 | 45.362 | 0.250 | -1.448 | 2.299 | -3.200 | 0.551 |
| 990917 | 45.437 | 45.750 | 44.937 | 45.625 | 45.137 | 0.230 | 1.303 | 2.663 | -0.870 | 2.120 |
| 990920 | 46.000 | 46.125 | 45.000 | 45.062 | 45.106 | 0.223 | 4.017 | 4.579 | -0.476 | -0.198 |
| 990921 | 44.875 | 45.625 | 44.125 | 44.500 | 45.125 | 0.245 | -1.019 | 2.041 | -4.080 | -2.550 |
| 990922 | 44.562 | 44.812 | 43.750 | 44.000 | 45.062 | 0.235 | -2.129 | -1.065 | -5.584 | -4.520 |
| 990923 | 44.000 | 44.250 | 42.250 | 42.437 | 44.662 | 0.260 | -2.548 | -1.586 | -9.279 | -8.559 |
| 990924 | 42.625 | 43.125 | 42.000 | 42.625 | 44.106 | 0.273 | -5.436 | -3.601 | -7.730 | -5.436 |
| 990927 | 43.125 | 43.875 | 42.750 | 43.625 | 43.656 | 0.273 | -1.950 | 0.803 | -3.326 | -0.115 |
| 990928 | 43.125 | 44.000 | 41.812 | 43.750 | 43.262 | 0.300 | -0.458 | 2.459 | -4.835 | 1.625 |
| 990929 | 43.625 | 44.875 | 43.250 | 43.500 | 43.219 | 0.323 | 1.260 | 5.136 | 0.097 | 0.872 |
| 990930 | 43.625 | 44.125 | 42.937 | 43.500 | 43.275 | 0.290 | 1.207 | 2.931 | -1.165 | 0.776 |

Figure 7 Example calculations for generating the AT&T Value Chart™ (figure 6).

Figure 8

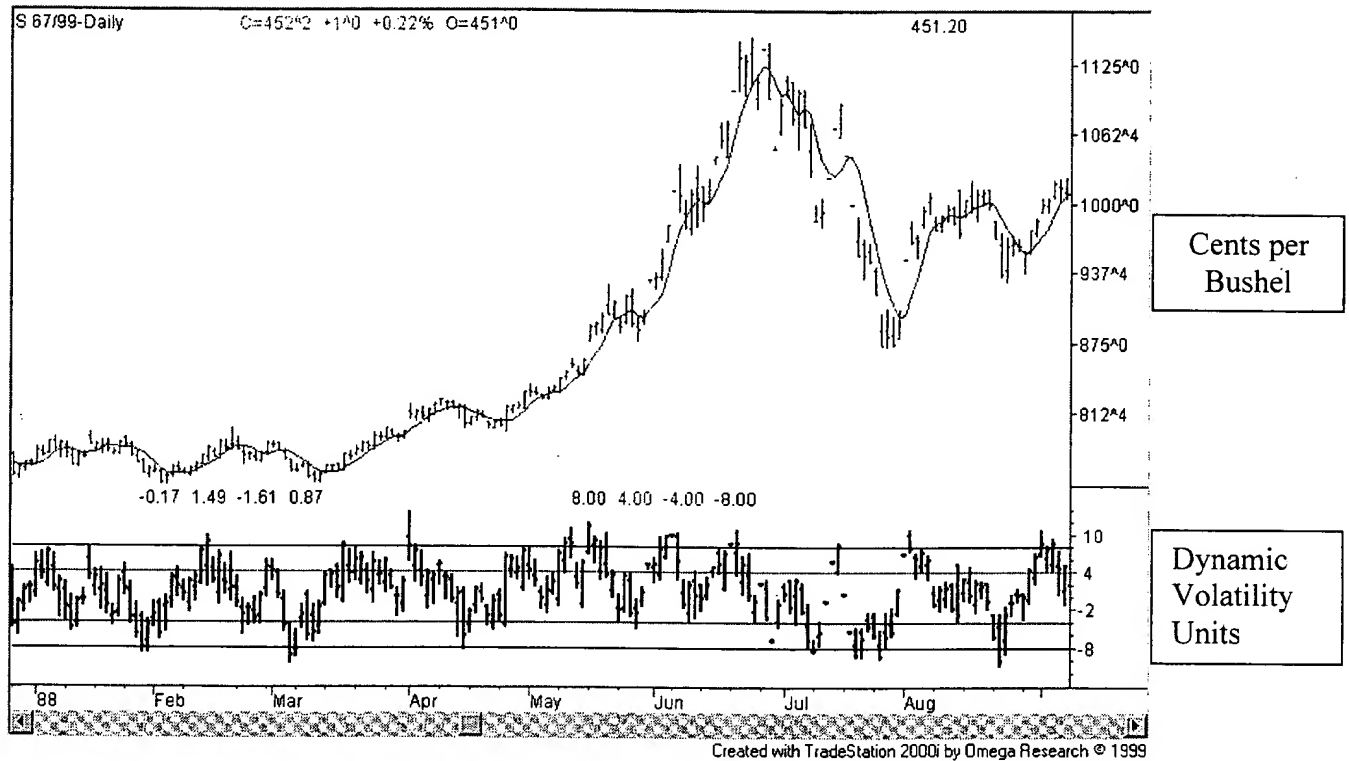


Figure 8 Daily Soybeans bar chart above a Daily Soybeans Value Chart™.

Figure 9

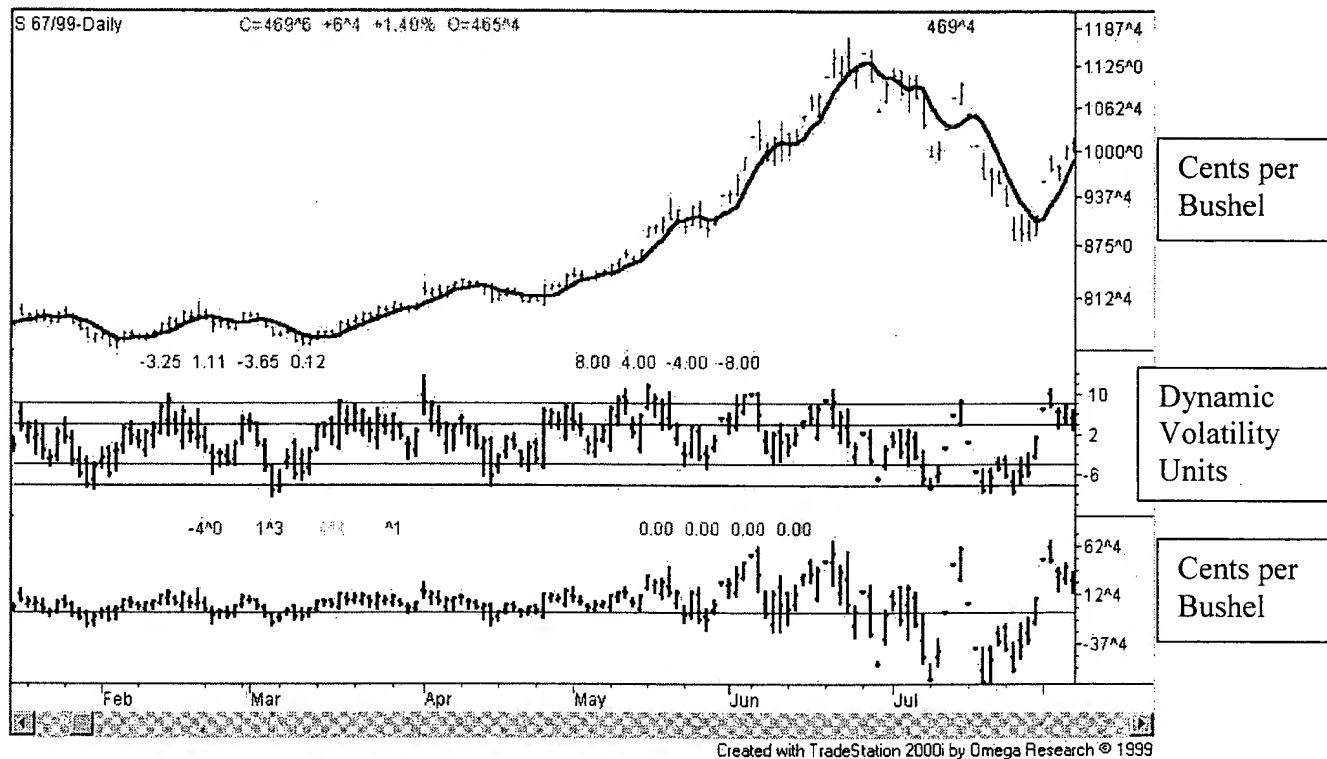


Figure 9 Soybeans bar chart over a Value Chart™ (middle) and a relative chart (bottom).

Figure 10

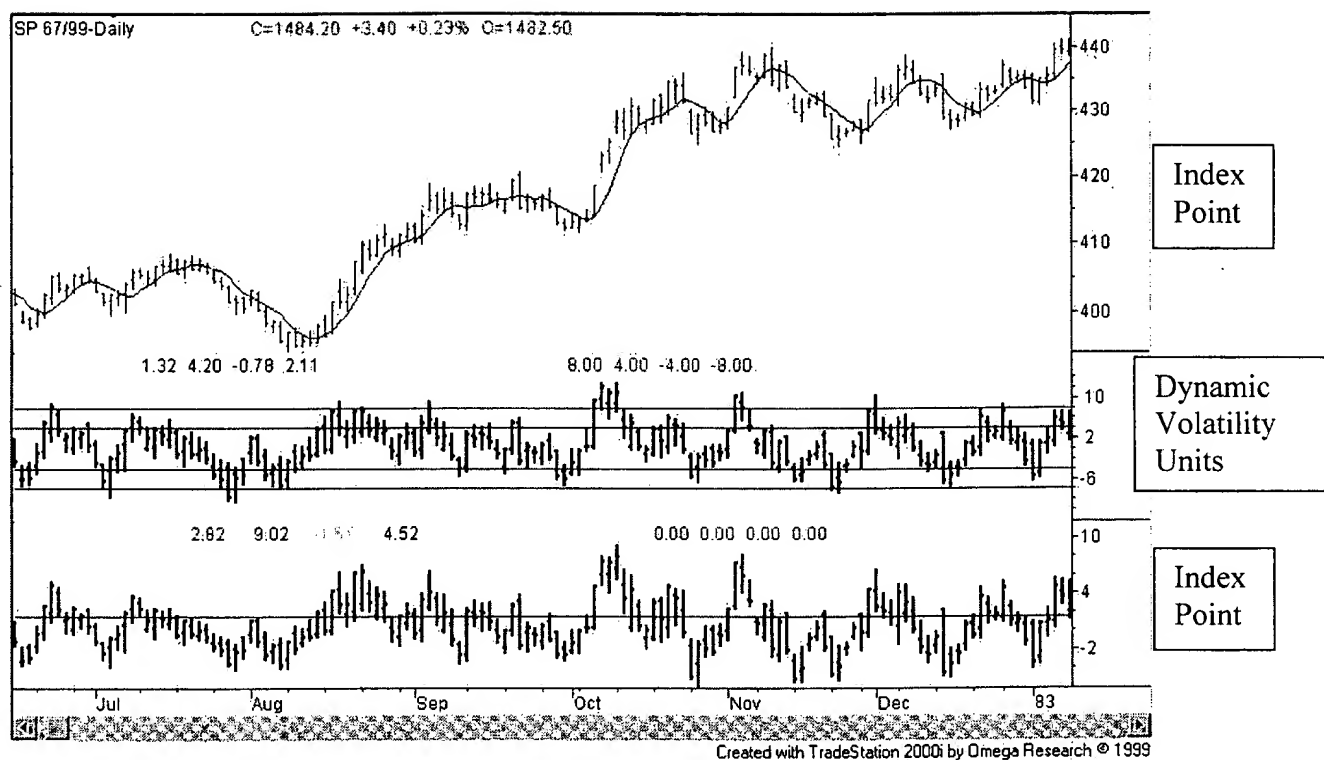


Figure 10 S&P 500 bar chart in 1982 over a Value Chart™ and a relative chart.

Figure 11

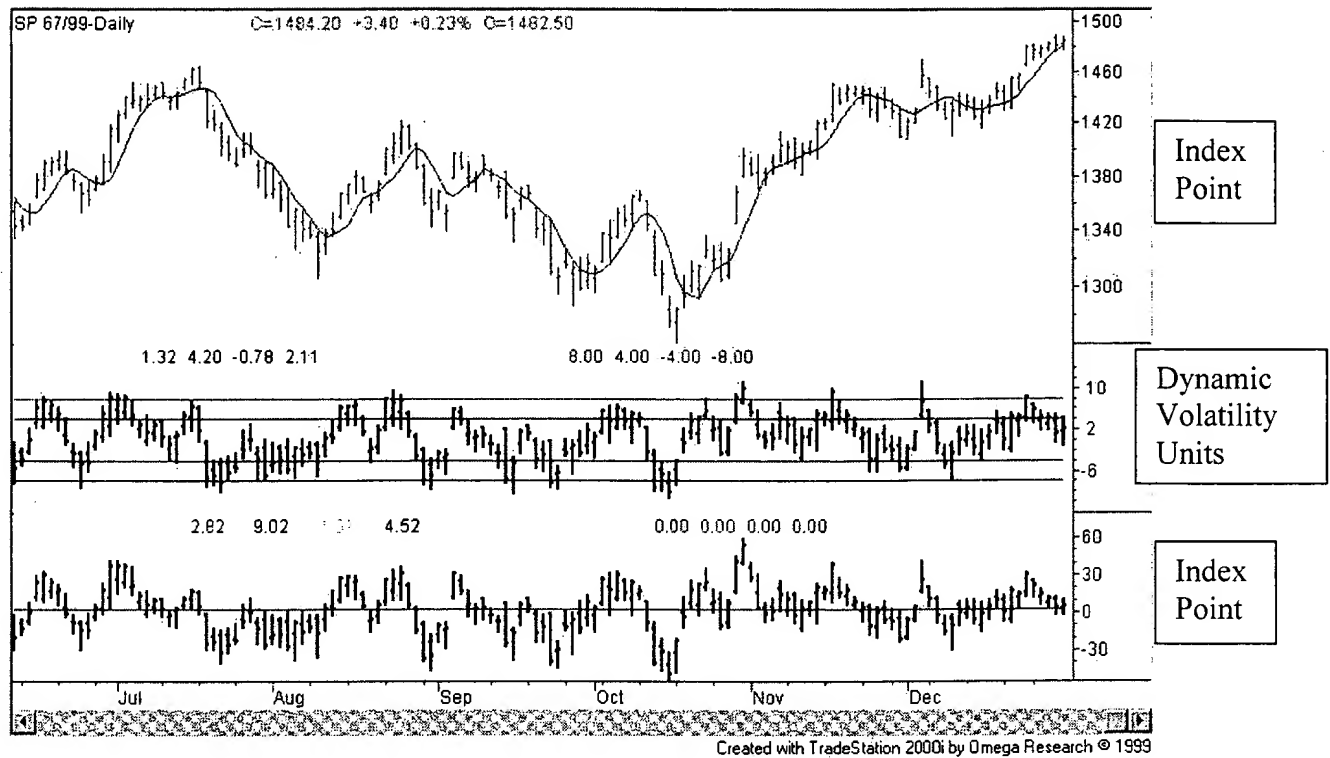
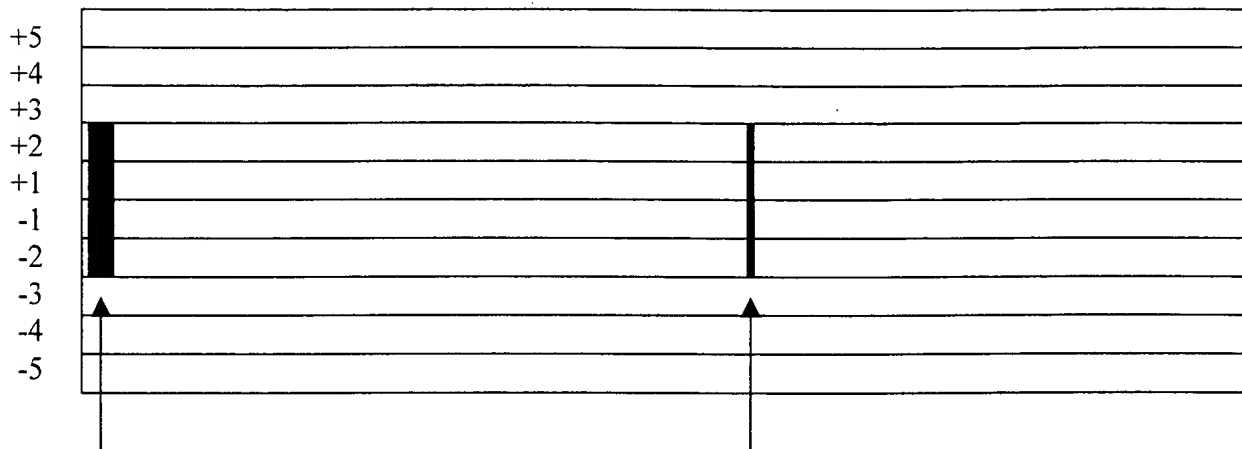


Figure 11 S&P 500 bar chart in 1999 over a Value Chart™ and a relative chart.

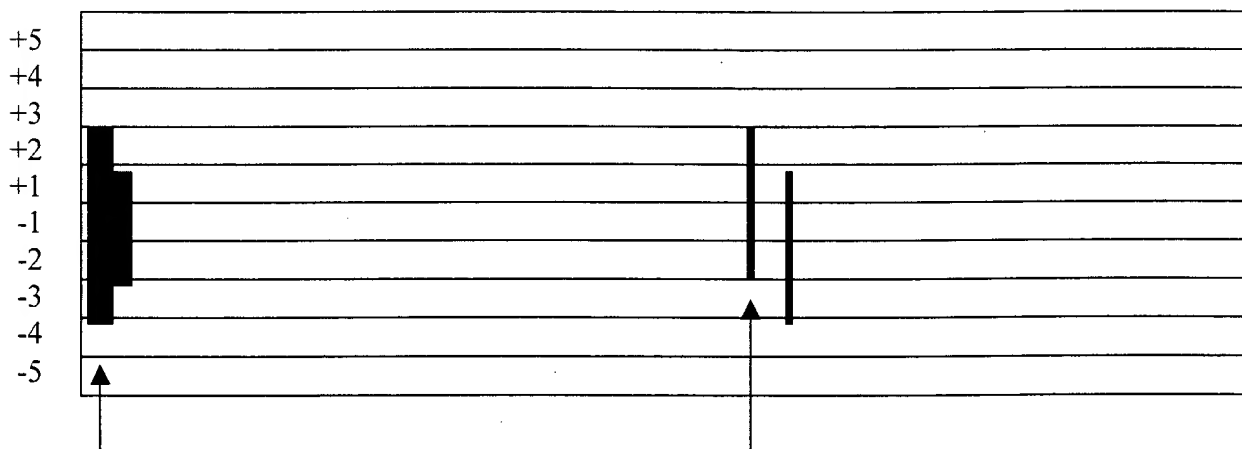
Figures 12(a)(b)



Price Action Profile™ for
one trading day (one bar).

One Value Chart™ bar reflecting
one trading day (one bar).

Figure 12a Development of a Price Action Profile™.

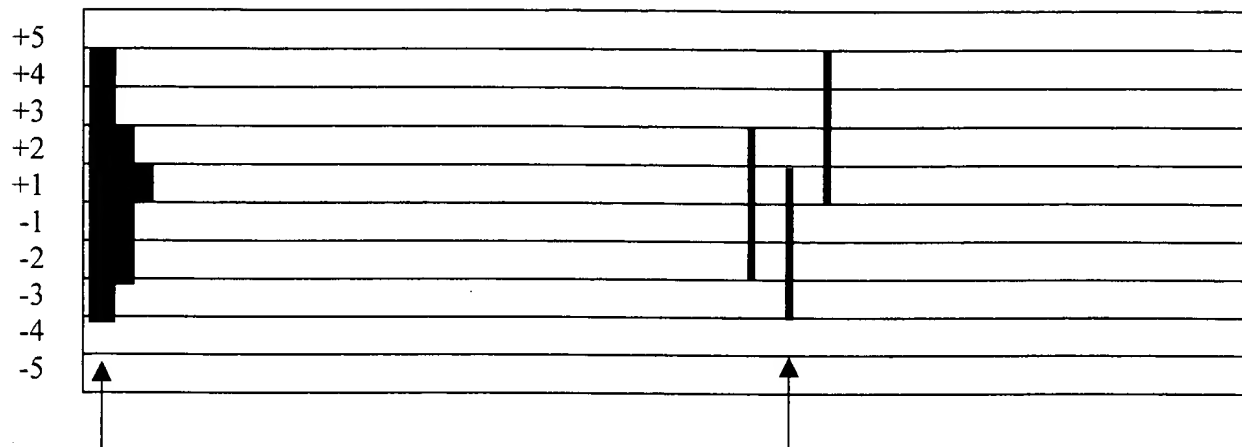


Price Action Profile™ for
two trading days.

Two Value Chart™ bars
reflecting two trading days.

Figure 12b Development of a Price Action Profile™.

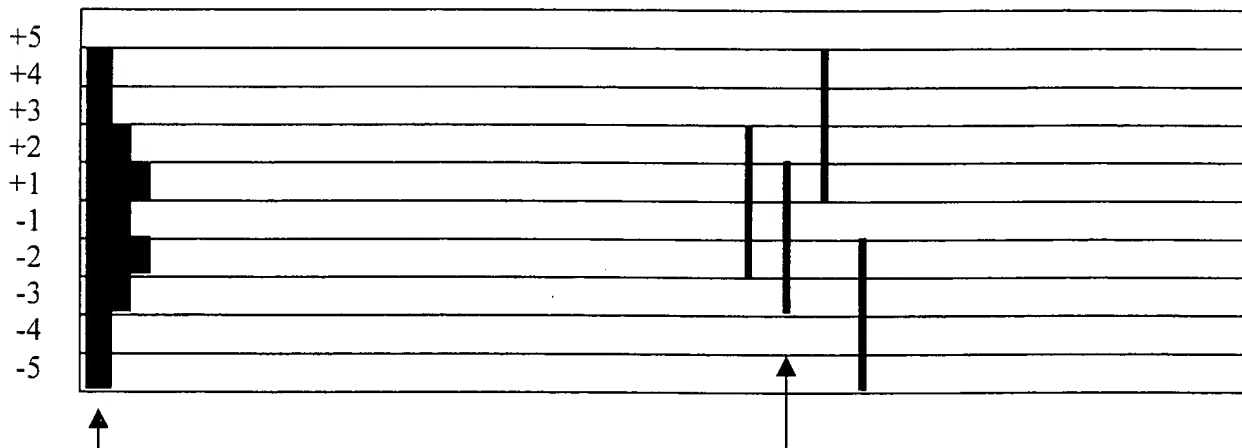
Figures 12(c)(d)



Price Action Profile™ for three trading days.

Three Value Chart™ bars reflecting three trading days.

Figure 12c Development of a Price Action Profile™.



Price Action Profile™ for four trading days.

Four Value Chart™ bars reflecting four trading days.

Figure 12d Development of a Price Action Profile™.

Figures 13(a)(b)

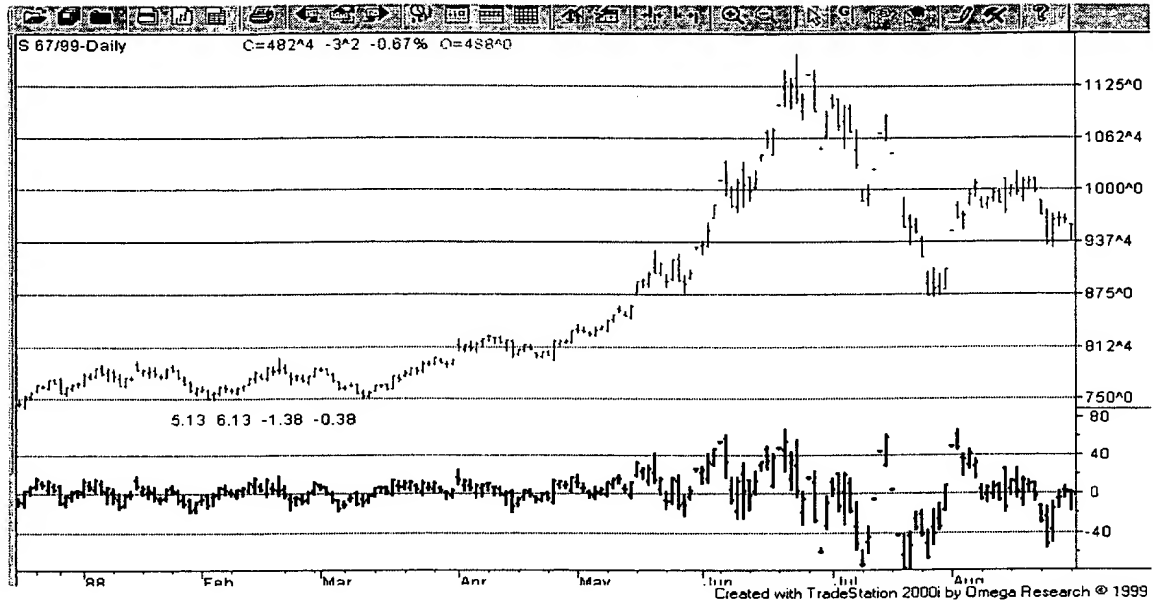


Figure 13a Daily Soybeans bar chart above a Daily Soybeans Relative Chart.

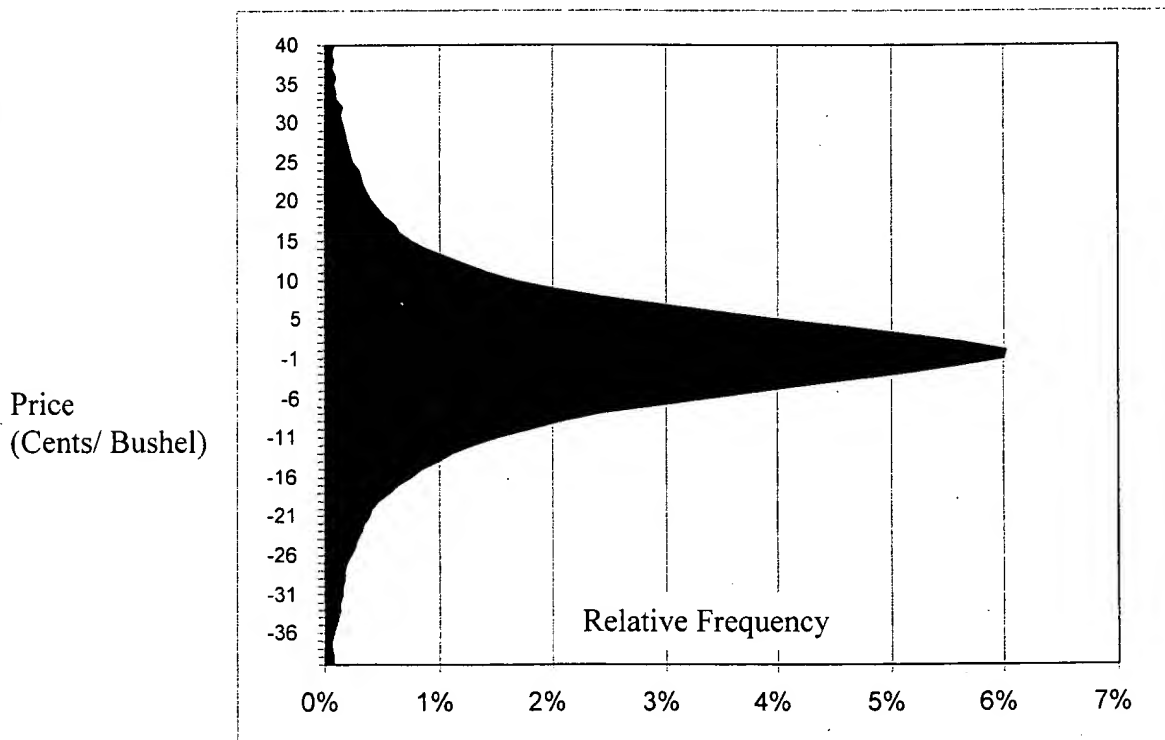


Figure 13b Frequency Histogram of relative daily Soybeans chart.

Figures 14(a)(b)

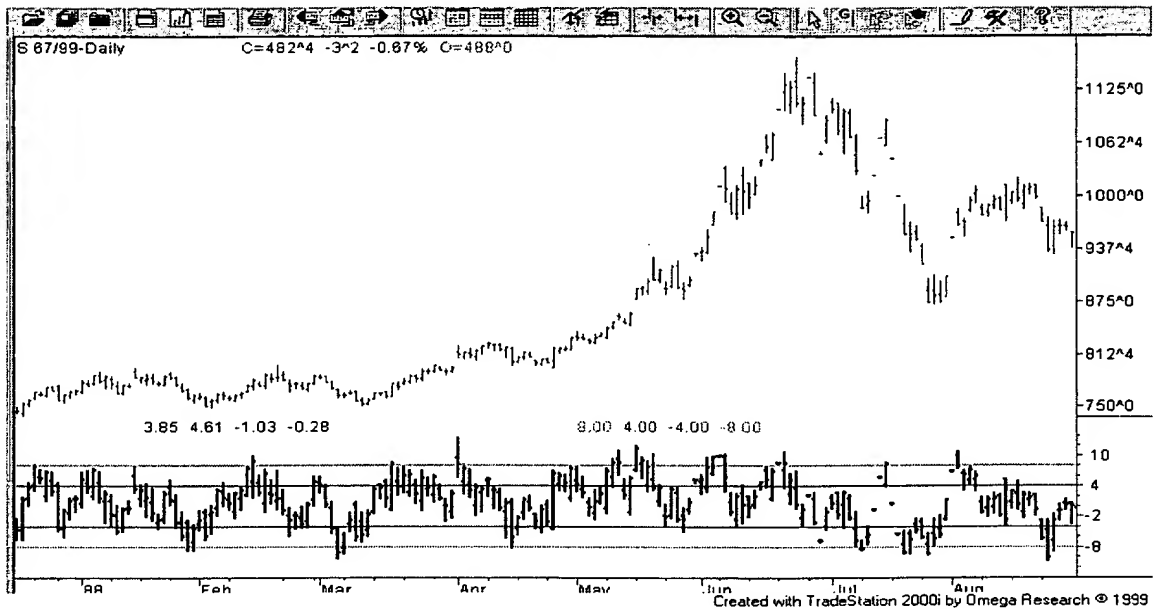


Figure 14a Daily Soybeans bar chart above a Daily Soybeans Value Chart™.

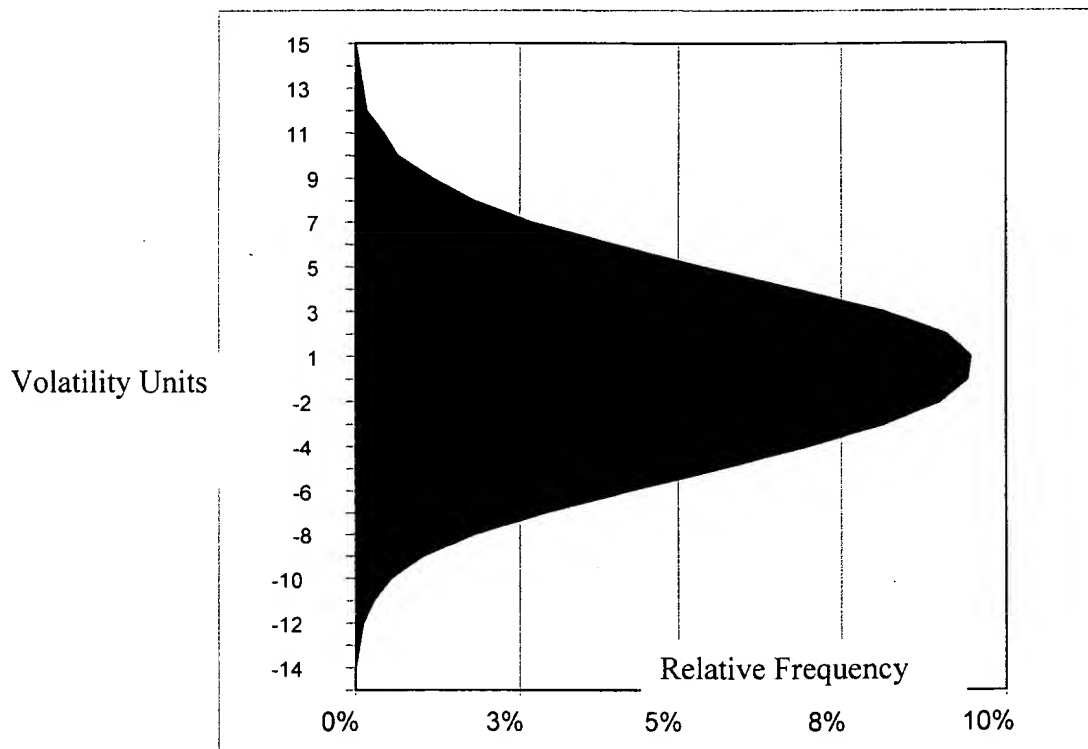


Figure 14b Price Action Profile™ generated from the daily Soybeans Value Chart™.

Figure 15

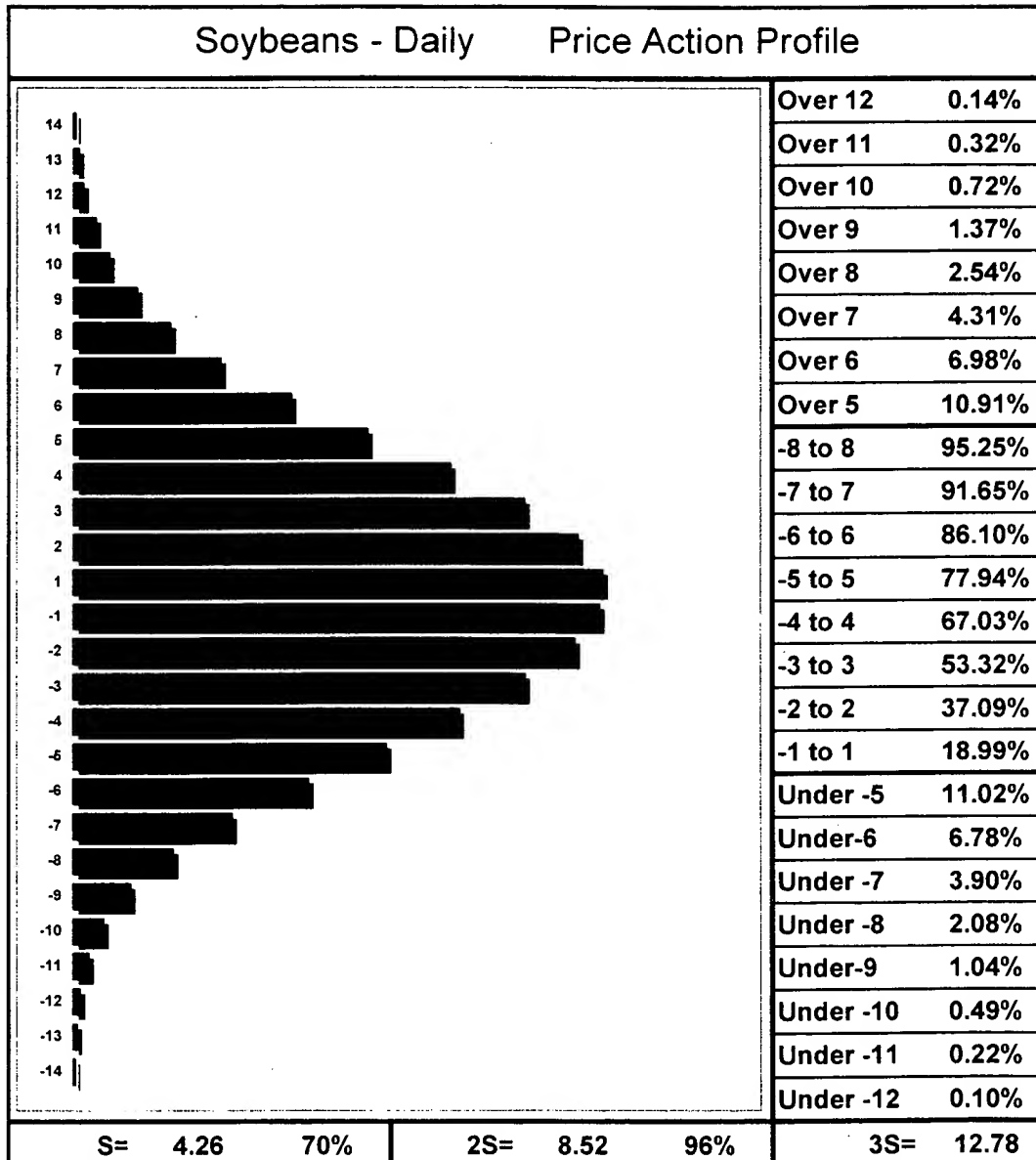


Figure 15 Price Action Profile™ from a daily Soybean Value Chart™.

Figure 16

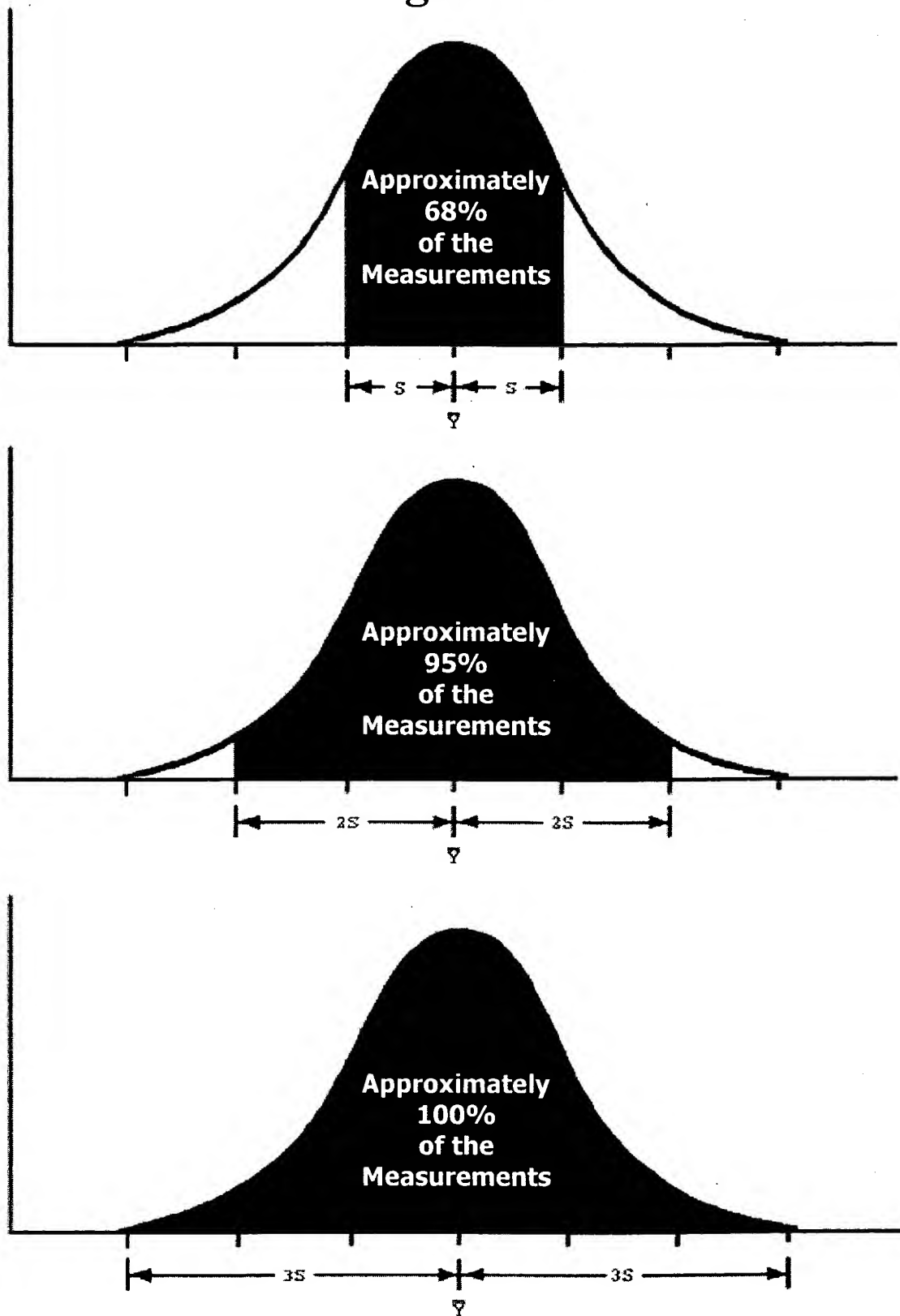


Figure 16 The Empirical Rule describing normal (mound-shaped) Bell Curves.

Figure 17

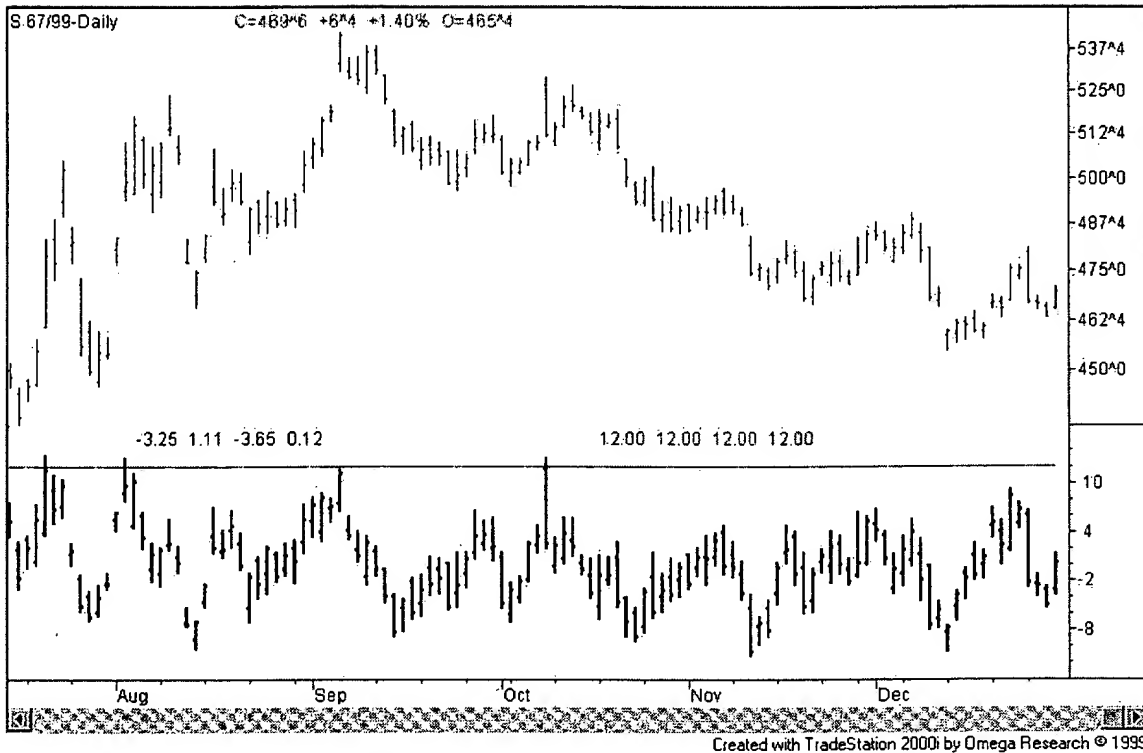


Figure 17 Daily Soybeans Value Chart™ with a +12 Value Chart™ line.

Figure 18

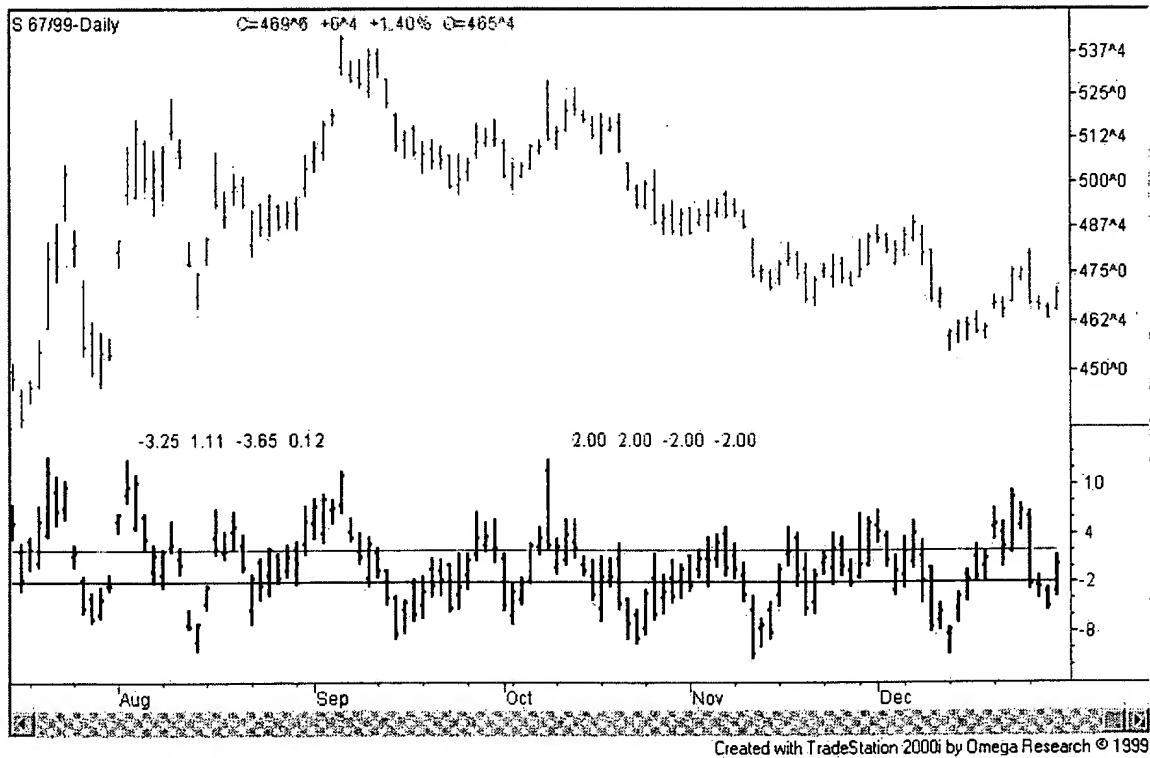


Figure 18 Daily Soybeans Value Chart™ with ± 2 Value Chart™ lines.

Figure 19

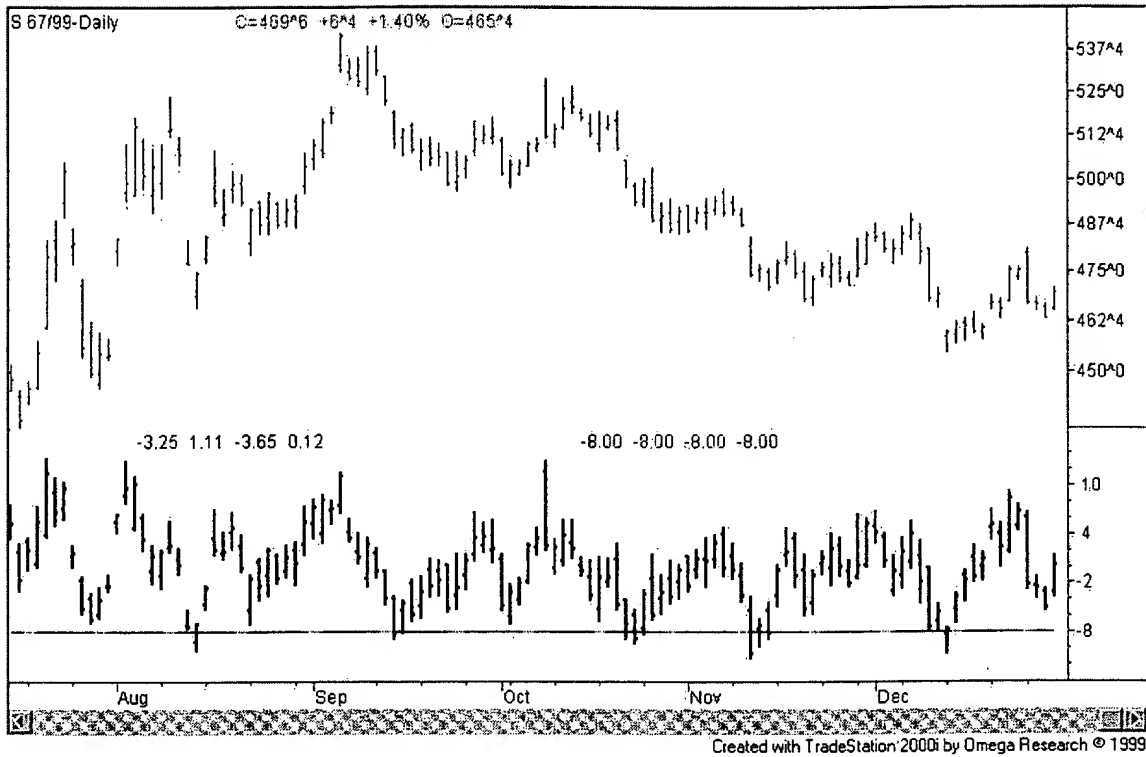


Figure 19 Daily Soybeans Value Chart™ with a -8 Value Chart™ line.

Figure 20

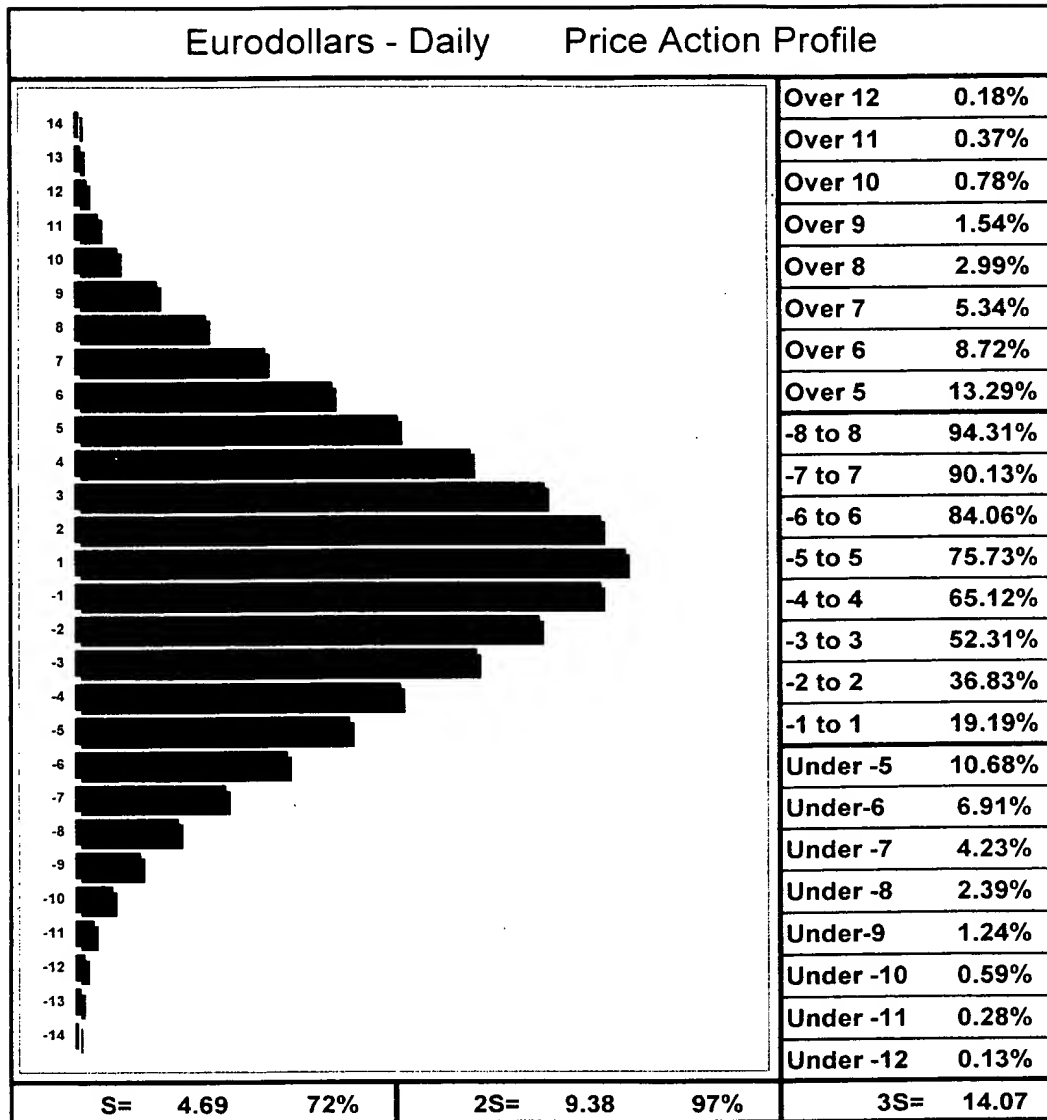


Figure 20 Price Action Profile™ from a daily Eurodollars Value Chart™.

Note that ± 1 standard deviation calculated from the Eurodollars Value Chart™ (see bottom of figure 20) is equal to ± 4.69 and contains 72% of the daily Eurodollars price bars. Furthermore, ± 2 standard deviations calculated from the Eurodollars Value Chart™ (see bottom of figure 20) is equal to ± 9.38 and contains 97% of the daily Eurodollars price bars. Although not displayed in the figure above, ± 3 standard deviations calculated from the Eurodollars Value Chart™ is equal to ± 14.07 and contains 99% of the daily Eurodollars price bars. The Eurodollars Price Action Profile™ displayed in figure 20 meets the requirement of the Empirical Rule displayed in figure 16 and is therefore considered a normal bell curve, which is statistically significant. Given this fact, the Eurodollars Price Action Profile™ allows us to make inferences about future price behavior.

Figure 21

| | S | ED | CC | CL | GC | LH | US | SP | SF | AXP | GM | HWP |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Over +12 | 0.1% | 0.2% | 0.1% | 0.2% | 0.2% | 0.1% | 0.1% | 0.0% | 0.3% | 0.2% | 0.2% | 0.2% |
| Over +11 | 0.3% | 0.4% | 0.4% | 0.4% | 0.4% | 0.2% | 0.2% | 0.1% | 0.7% | 0.5% | 0.4% | 0.4% |
| Over +10 | 0.7% | 0.8% | 0.9% | 0.7% | 0.8% | 0.5% | 0.6% | 0.3% | 1.2% | 1.0% | 0.8% | 0.9% |
| Over +9 | 1.4% | 1.5% | 1.8% | 1.3% | 1.5% | 1.0% | 1.2% | 0.8% | 2.2% | 1.8% | 1.6% | 1.6% |
| Over +8 | 2.5% | 3.0% | 3.3% | 2.4% | 2.6% | 2.1% | 2.3% | 1.7% | 3.6% | 3.1% | 3.0% | 2.8% |
| Over +7 | 4.3% | 5.3% | 5.4% | 4.3% | 4.2% | 3.9% | 4.2% | 3.5% | 5.7% | 5.2% | 5.0% | 4.9% |
| Over +6 | 7.0% | 8.7% | 8.3% | 7.4% | 6.7% | 6.9% | 7.1% | 6.5% | 8.7% | 8.2% | 8.0% | 8.1% |
| Over +5 | 10.9% | 13.3% | 12.1% | 11.9% | 10.2% | 11.3% | 11.3% | 11.2% | 12.7% | 12.5% | 12.2% | 12.5% |
| -8 to +8 | 95.2% | 94.3% | 93.8% | 94.7% | 94.2% | 95.7% | 95.5% | 96.8% | 92.7% | 94.1% | 94.5% | 94.8% |
| -7 to +7 | 91.7% | 90.1% | 89.5% | 91.0% | 90.5% | 92.3% | 92.0% | 93.7% | 88.2% | 90.3% | 90.5% | 91.1% |
| -6 to +6 | 86.1% | 84.1% | 83.5% | 85.1% | 85.2% | 86.9% | 86.2% | 88.6% | 81.9% | 84.8% | 84.5% | 85.3% |
| -5 to +5 | 77.9% | 75.7% | 75.2% | 76.7% | 77.7% | 78.9% | 77.9% | 80.7% | 73.3% | 76.9% | 76.0% | 77.1% |
| -4 to +4 | 67.0% | 65.1% | 64.4% | 65.8% | 67.7% | 68.0% | 66.6% | 69.7% | 62.5% | 66.4% | 64.9% | 66.4% |
| -3 to +3 | 53.3% | 52.3% | 51.1% | 52.3% | 54.9% | 54.3% | 52.7% | 55.4% | 49.6% | 53.2% | 51.2% | 52.8% |
| -2 to +2 | 37.1% | 36.8% | 35.6% | 36.4% | 39.0% | 38.0% | 36.4% | 38.5% | 34.6% | 37.3% | 35.3% | 36.7% |
| -1 to +1 | 19.0% | 19.2% | 18.2% | 18.7% | 20.4% | 19.6% | 18.5% | 19.7% | 17.7% | 19.3% | 17.9% | 19.0% |
| Under -5 | 11.0% | 10.7% | 12.5% | 11.3% | 11.9% | 9.8% | 10.7% | 8.1% | 13.8% | 10.4% | 11.6% | 10.3% |
| Under -6 | 6.8% | 6.9% | 8.1% | 7.4% | 8.0% | 6.2% | 6.6% | 4.9% | 9.3% | 6.7% | 7.4% | 6.5% |
| Under -7 | 3.9% | 4.2% | 4.9% | 4.7% | 5.2% | 3.8% | 3.7% | 2.7% | 5.9% | 4.2% | 4.4% | 3.9% |
| Under -8 | 2.1% | 2.4% | 2.8% | 2.8% | 3.2% | 2.2% | 2.0% | 1.4% | 3.6% | 2.5% | 2.4% | 2.2% |
| Under -9 | 1.0% | 1.2% | 1.4% | 1.6% | 1.9% | 1.2% | 1.0% | 0.7% | 2.0% | 1.4% | 1.2% | 1.2% |
| Under -10 | 0.5% | 0.6% | 0.7% | 0.8% | 1.0% | 0.6% | 0.4% | 0.3% | 1.1% | 0.7% | 0.6% | 0.6% |
| Under -11 | 0.2% | 0.3% | 0.2% | 0.4% | 0.6% | 0.3% | 0.2% | 0.2% | 0.5% | 0.4% | 0.3% | 0.3% |
| Under -12 | 0.1% | 0.1% | 0.1% | 0.2% | 0.3% | 0.1% | 0.1% | 0.1% | 0.2% | 0.2% | 0.1% | 0.2% |

Figure 21 Price Action Profile™ analysis generated from several different markets.

Figure 22

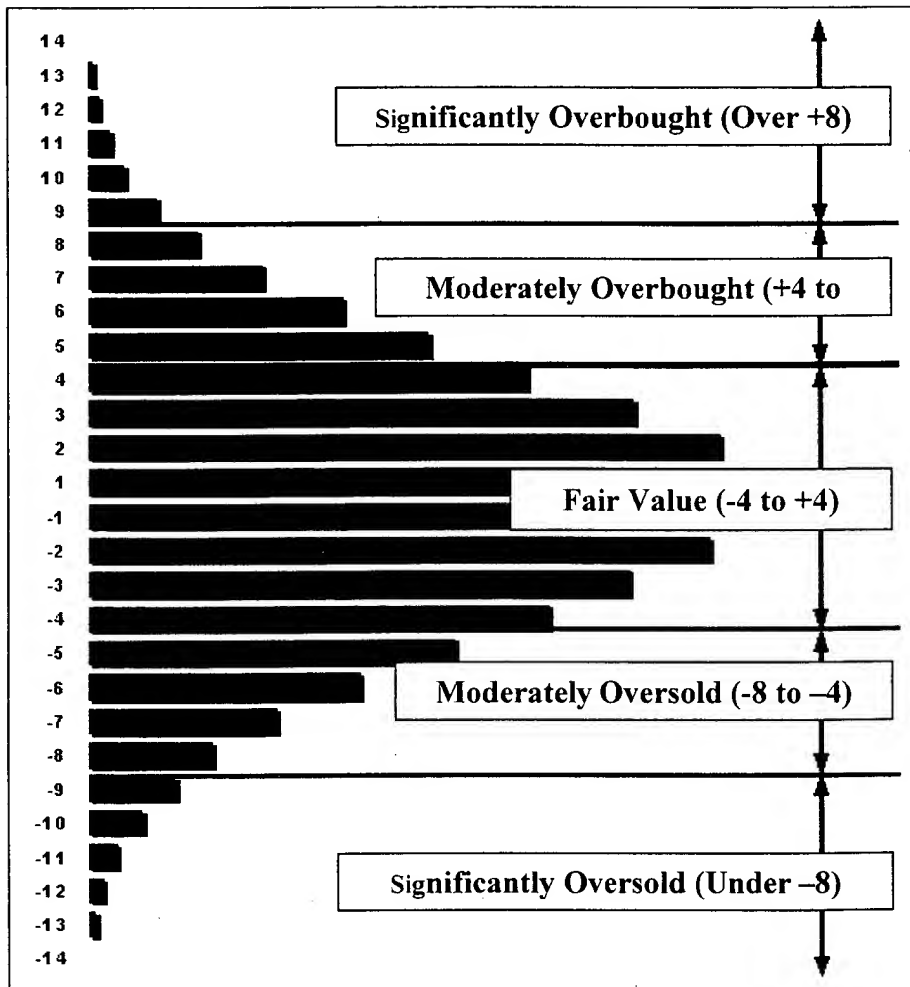


Figure 22 Price Action Profile™ relative value convention.

Figures 23(a)(b)

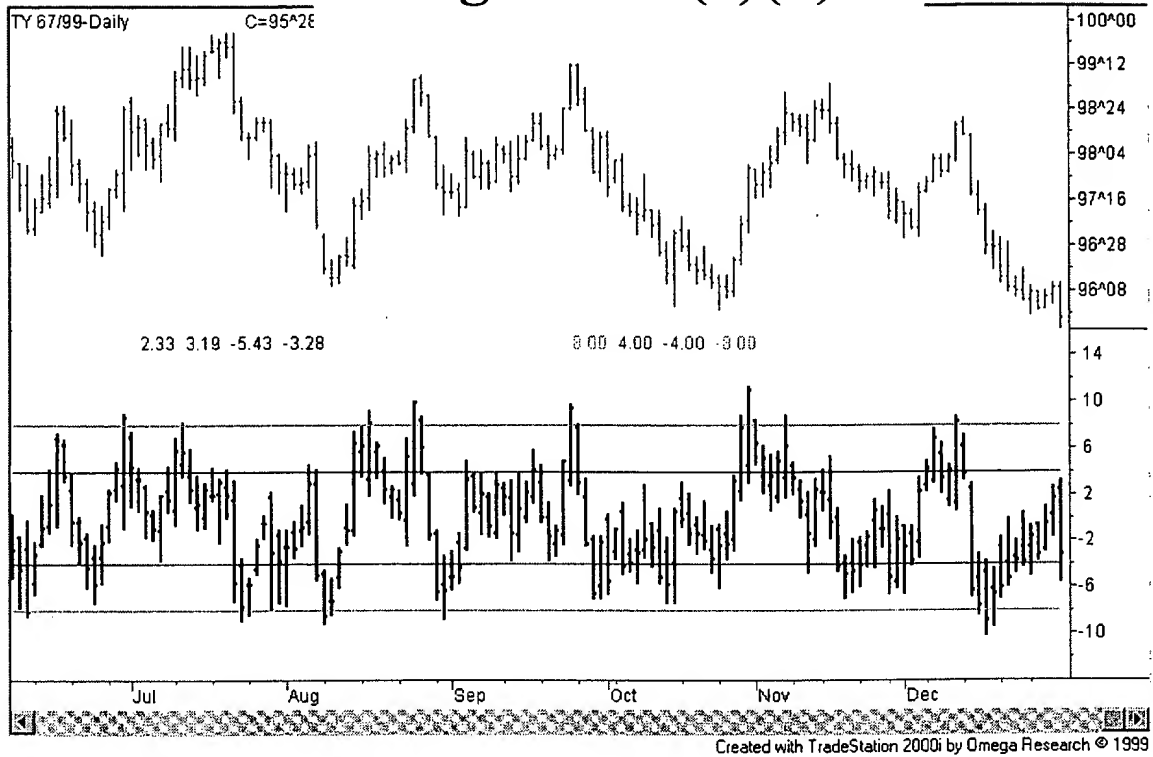


Figure 23a Daily Treasury Note price chart (above) and Value Chart™ (below).

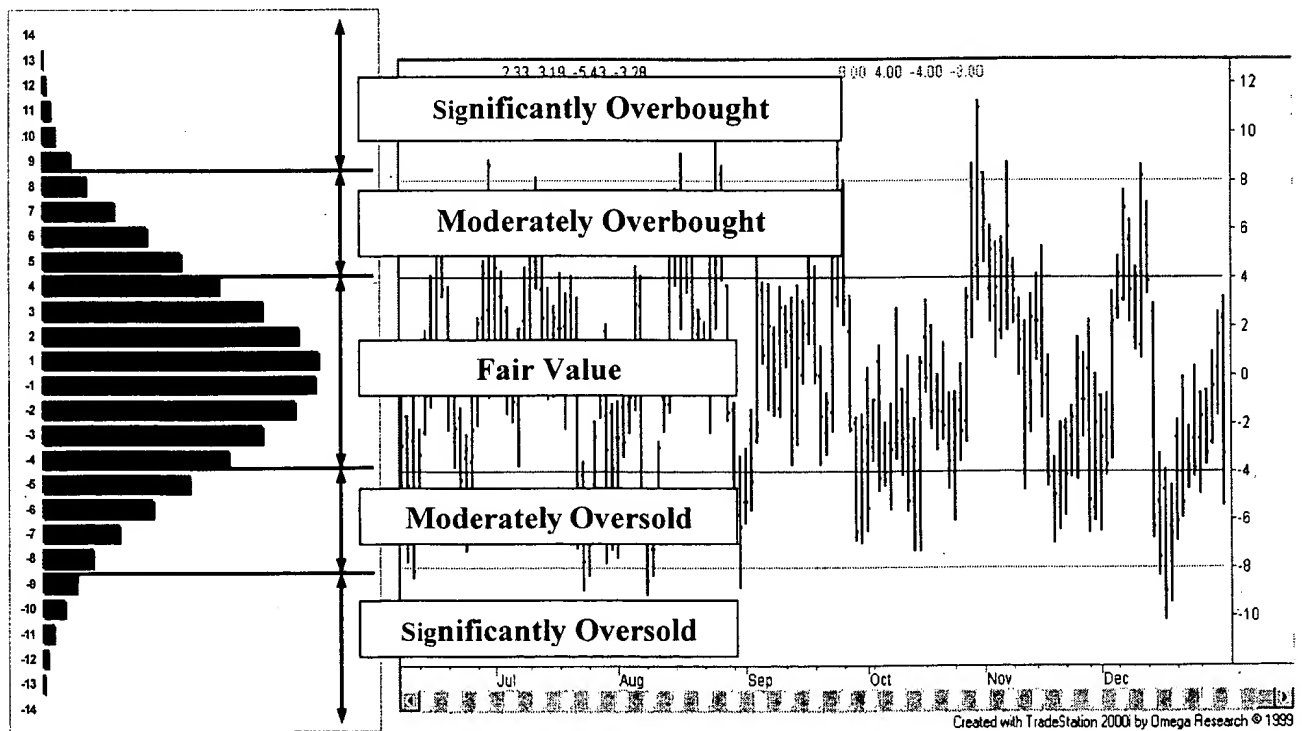


Figure 23b Valuation convention - Price Action Profile™ & Value Chart™.

Figure 24

| | SP80 | SP90 |
|-----------|-------|-------|
| Over +12 | 0.0% | 0.0% |
| Over +11 | 0.1% | 0.1% |
| Over +10 | 0.3% | 0.3% |
| Over +9 | 0.8% | 0.8% |
| Over +8 | 1.8% | 1.7% |
| Over +7 | 3.5% | 3.6% |
| Over +6 | 6.5% | 6.7% |
| Over +5 | 11.0% | 11.5% |
| -8 to +8 | 96.8% | 96.8% |
| -7 to +7 | 93.7% | 93.6% |
| -6 to +6 | 88.5% | 88.6% |
| -5 to +5 | 80.5% | 80.8% |
| -4 to +4 | 69.5% | 69.8% |
| -3 to +3 | 55.1% | 55.6% |
| -2 to +2 | 38.2% | 38.8% |
| -1 to +1 | 19.5% | 19.8% |
| Under -5 | 8.6% | 7.6% |
| Under -6 | 5.0% | 4.7% |
| Under -7 | 2.7% | 2.7% |
| Under -8 | 1.4% | 1.5% |
| Under -9 | 0.7% | 0.7% |
| Under -10 | 0.4% | 0.3% |
| Under -11 | 0.2% | 0.1% |
| Under -12 | 0.2% | 0.1% |

Figure 24 Price Action Profile™ analysis comparison - S&P 500 (1980s vs. 1990s).

Figure 25

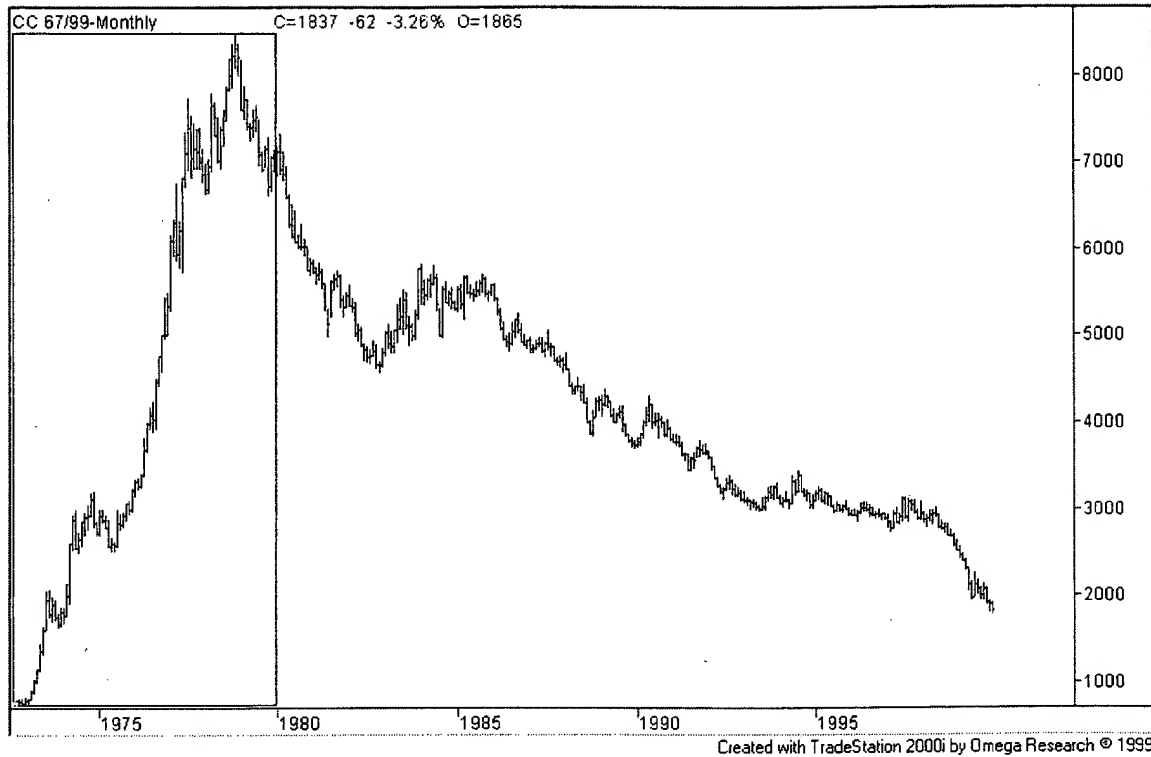


Figure 25 Monthly price chart of Cocoa (box encloses the 1970s).

Figure 26

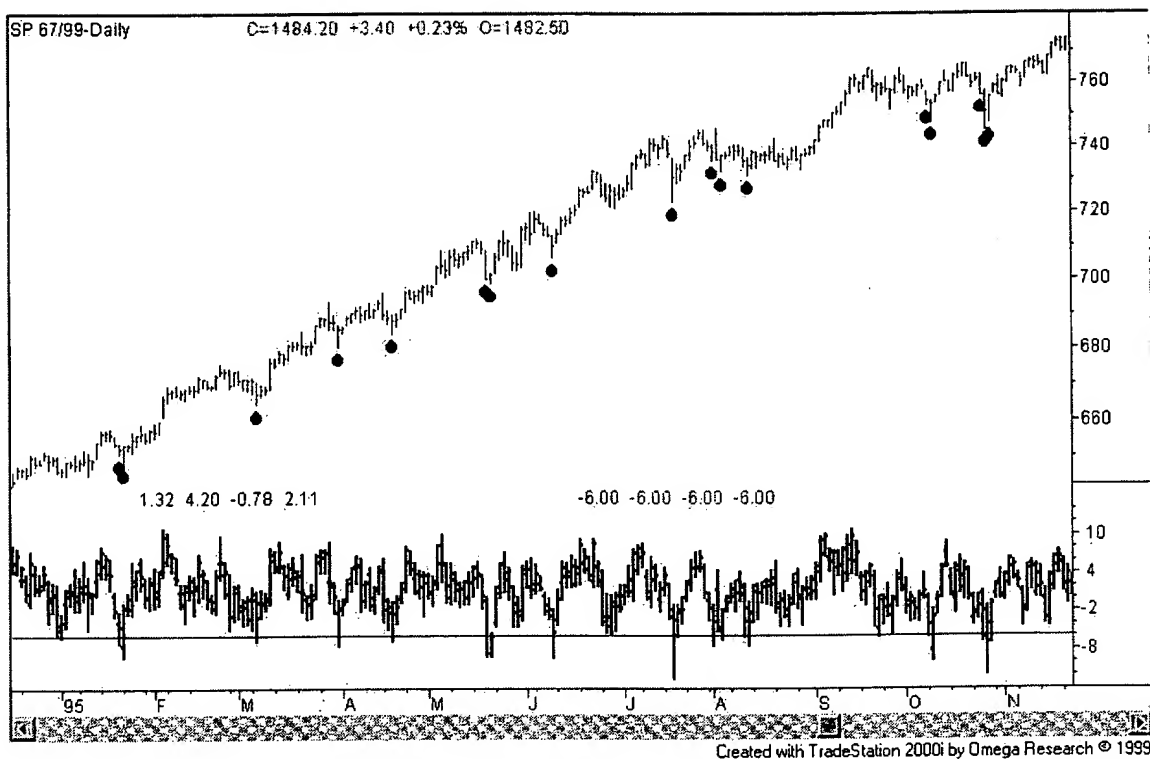


Figure 26 Buy points (identified by Value Charts™) with low risk exposure.

Figure 27

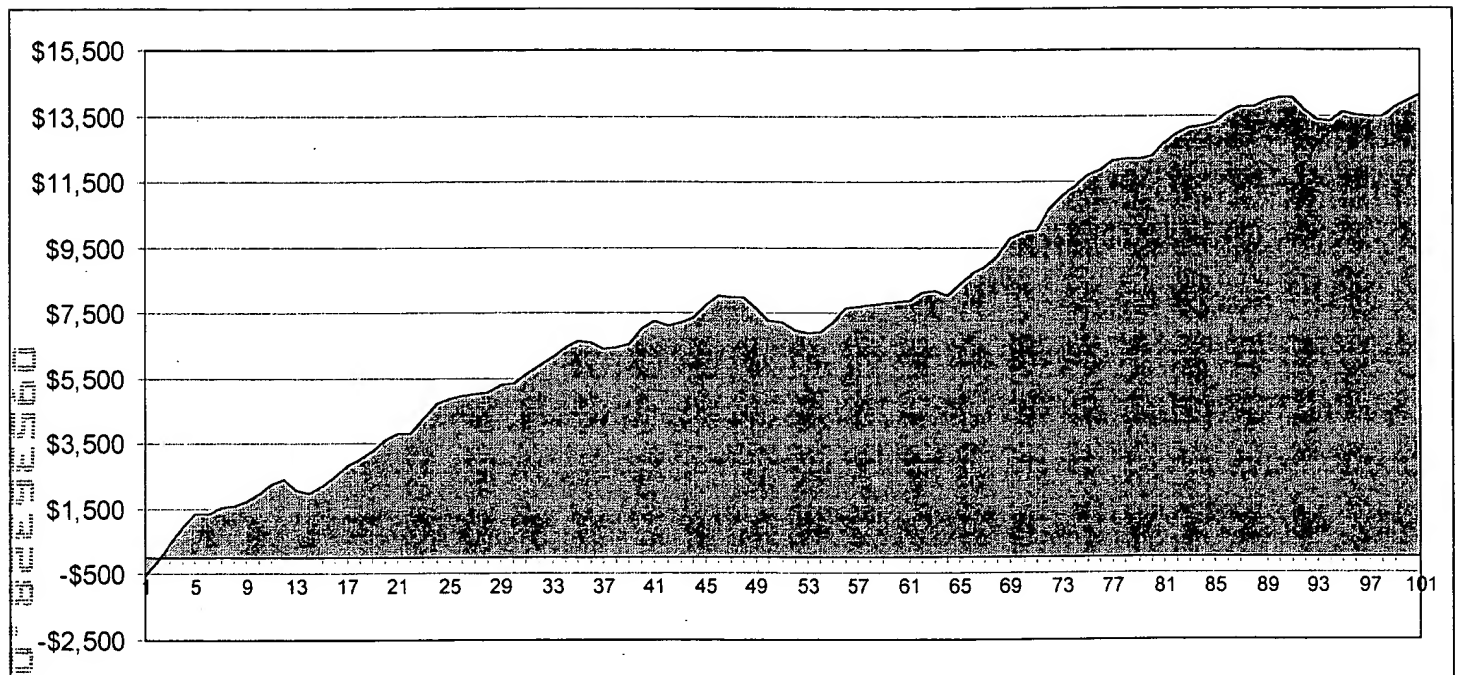


Figure 27 Average worst exposure profitably graph from buy points in figure 26 .
(x-axis represents days following average market entry)

Figure 28

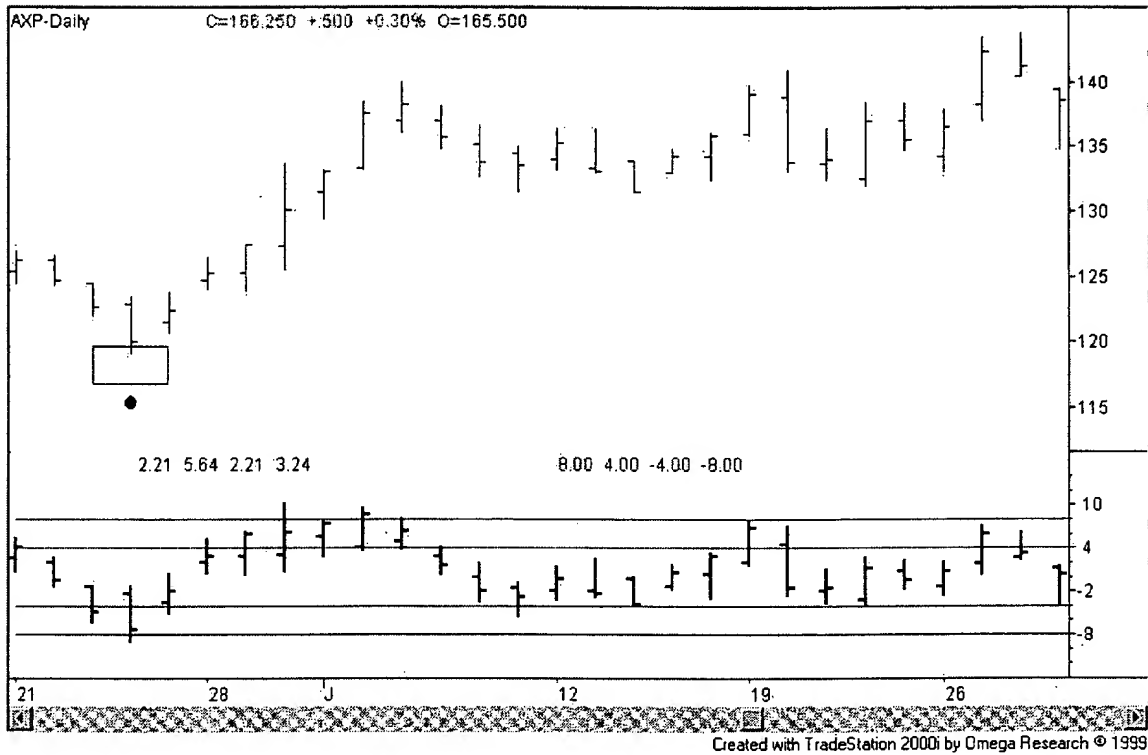


Figure 28 Low risk exposure buying point on daily American Express price chart.

Figures 29(a)(b)

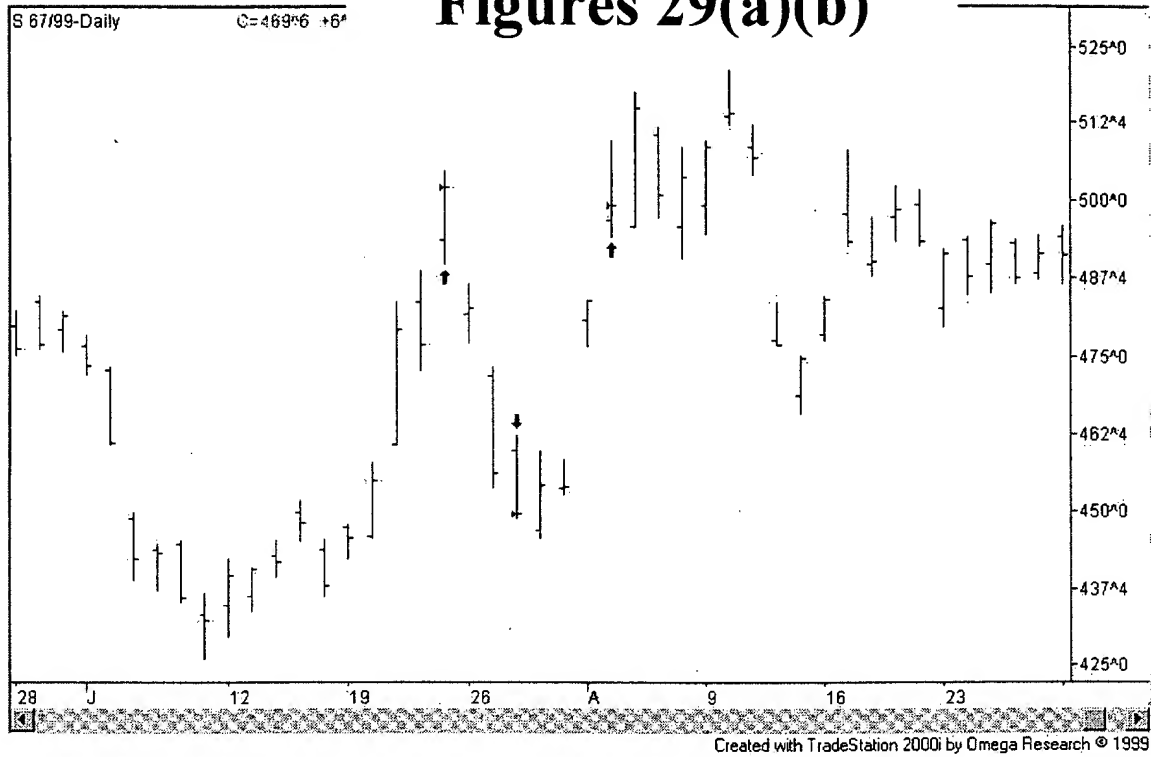


Figure 29a Trend-following system whipsawed in Soybeans.

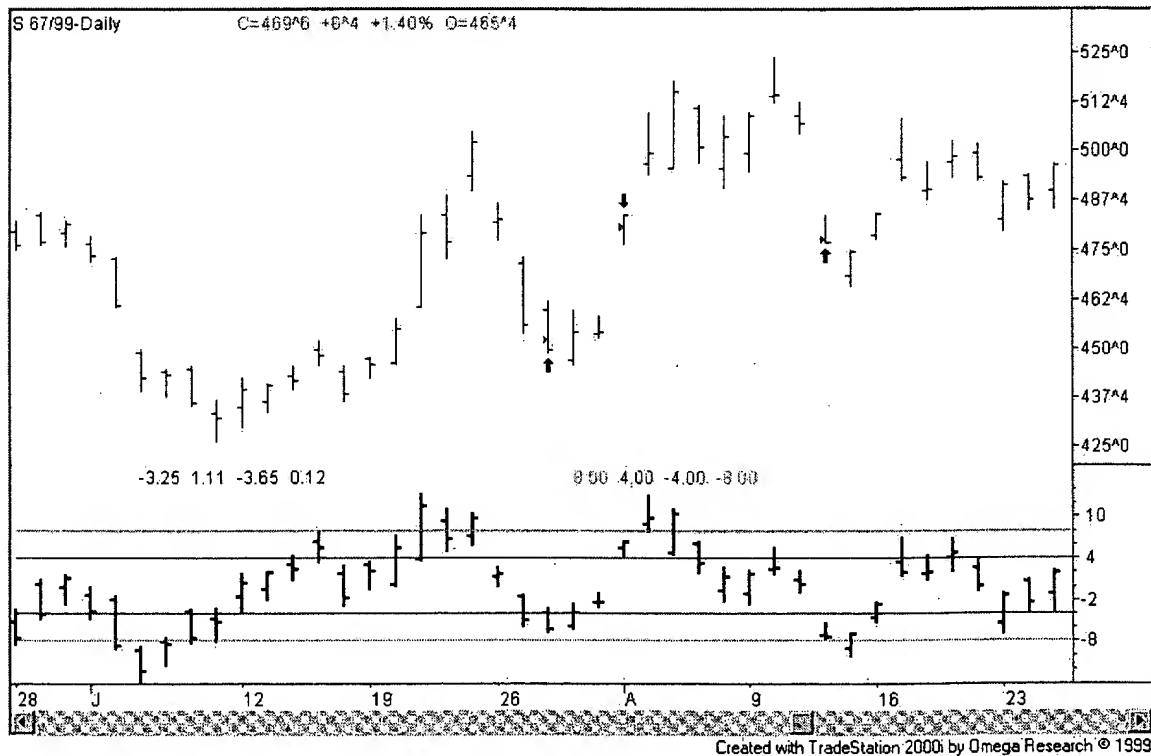


Figure 29b Value Charts™ can improve fill prices in choppy markets.

Figure 30

| Trend-Following System (Figure 29a) | | | | |
|--|-------|--------|-------------------|----------------------|
| | | | Value Chart Price | Price Action Profile |
| Date | Trade | Price | Price Level | Analysis |
| 23-Jul-99 | Buy | 502.25 | +9.61 | 1.37% of the time |
| 28-Jul-99 | Sell | 449.5 | -6.51 | 6.78% of the time |
| 3-Aug-99 | Buy | 499.25 | +9.56 | 1.37% of the time |
| | | | | |
| Trend-Following System Enhanced by Value Charts (Figure 29b) | | | | |
| | | | Value Chart Price | Price Improvement |
| Date | Trade | Price | Price Level | Per Contract (\$) |
| 28-Jul-99 | Buy | 451.5 | -6 | \$ 2,537.50 |
| 2-Aug-99 | Sell | 483.25 | +6 | \$ 1,687.50 |
| 12-Aug-99 | Buy | 481.75 | -6 | \$ 875.00 |

Dollars Saved Per Contract From Value Chart Enhancements \$ 5,100.00

Figure 30 Profits from Value Chart™ enhancements for whipsaw trades (figure 29a,b).

Figure 31

- 1) Bar located above sector:
- 2) Bar located below sector:
- 3) Bar passes all of the way through sector:
- 4) Entire bar is inside of sector:
- 5) High of bar is in sector and low of bar is below sector:
- 6) Low of bar is in sector and high of bar is above sector:

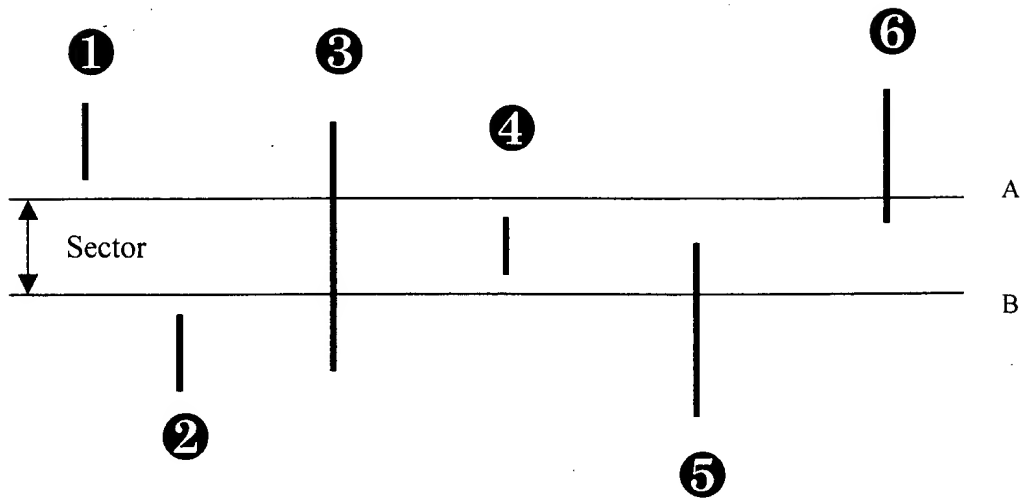


Figure 31 Six different ways a price bar can trade relative to a Value Chart™ interval.

Figure 32

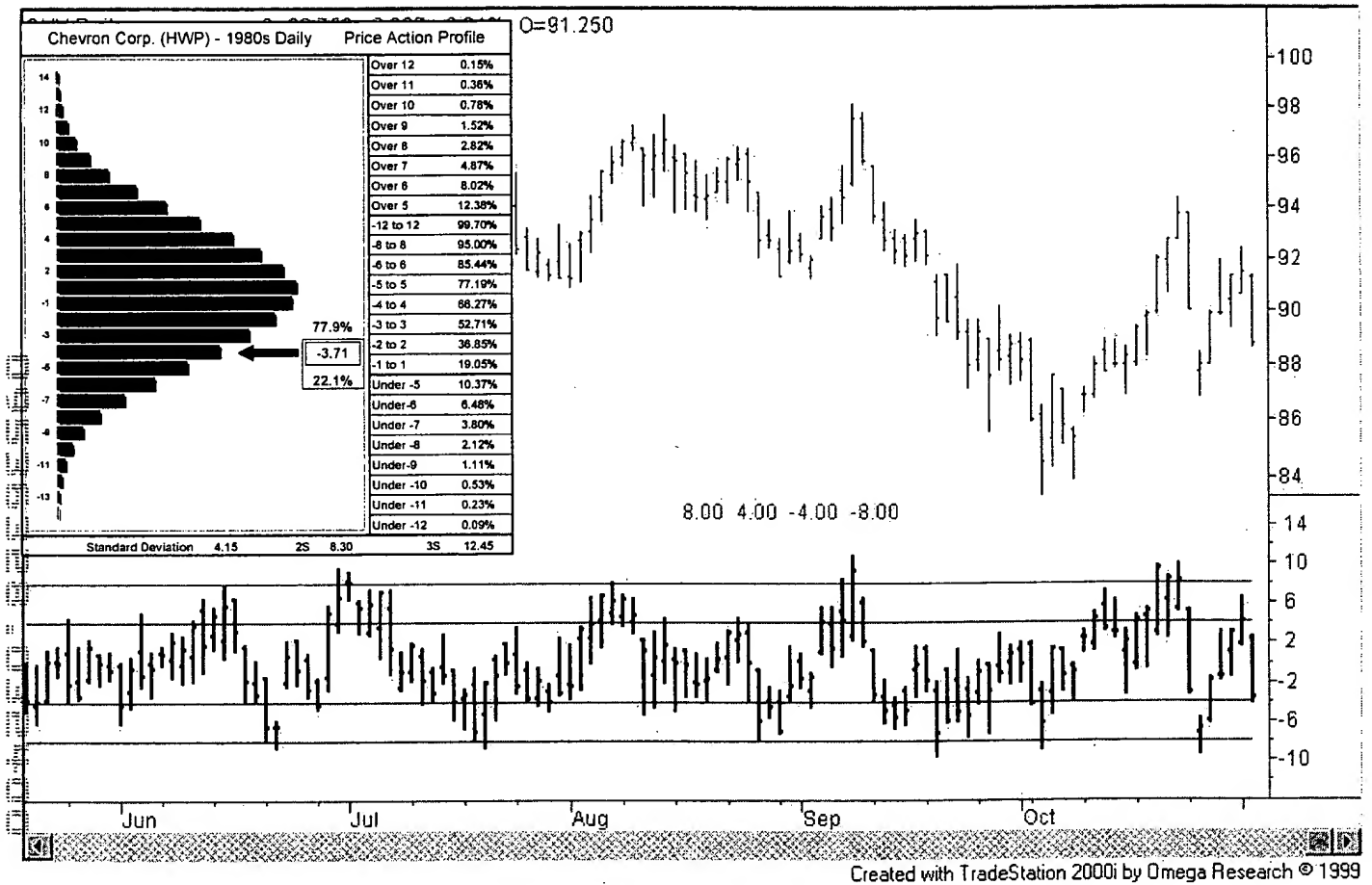


Figure 32 Example trading screen of the Value Charts™ and Price Action Profile™ concept applied to a daily chart of Chevron Corp.

Figure 33

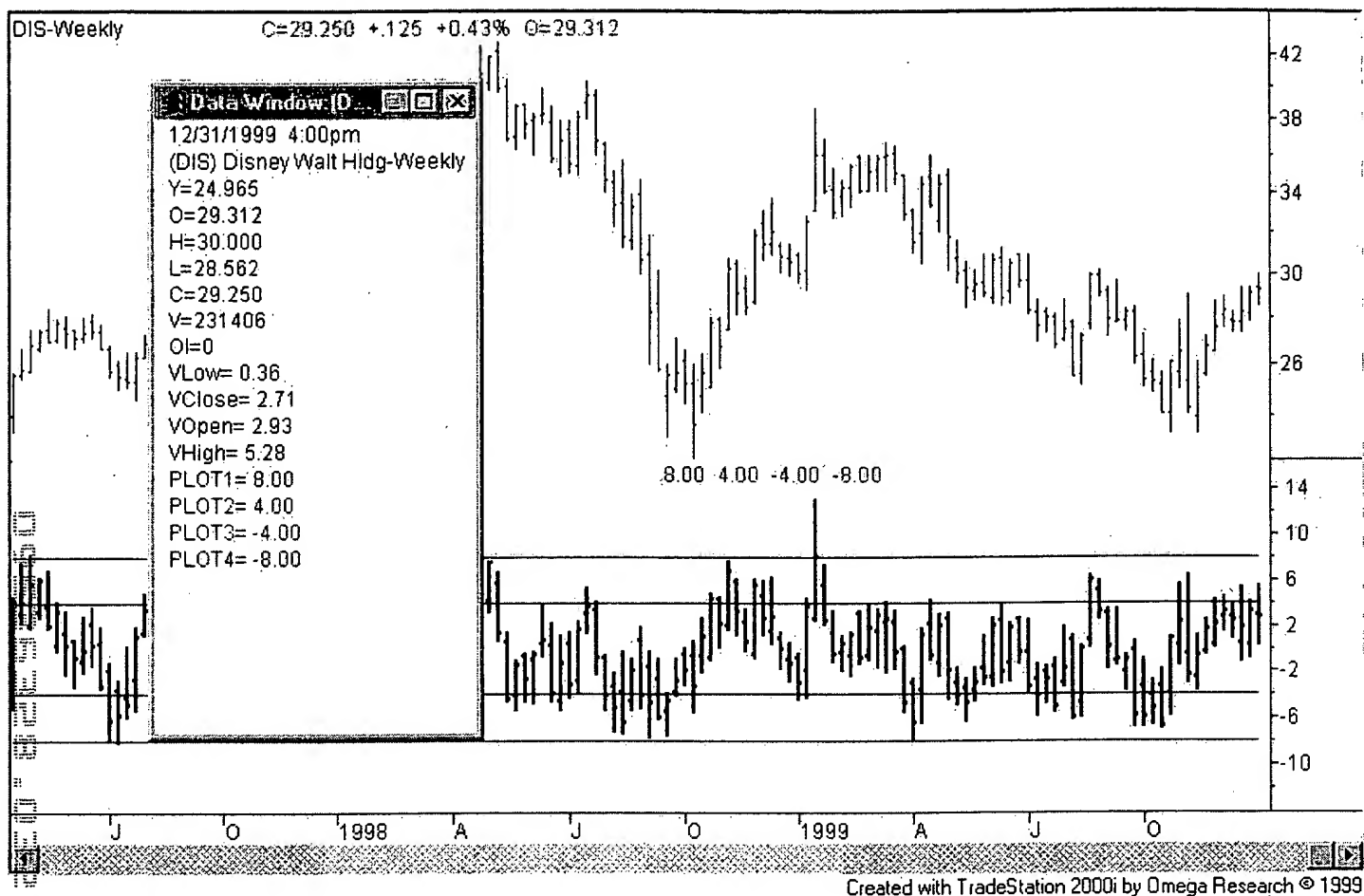


Figure 33 Example trading screen of the Value Charts™ concept applied to a weekly chart of Walt Disney Corp (data window is displayed).

Figure 34

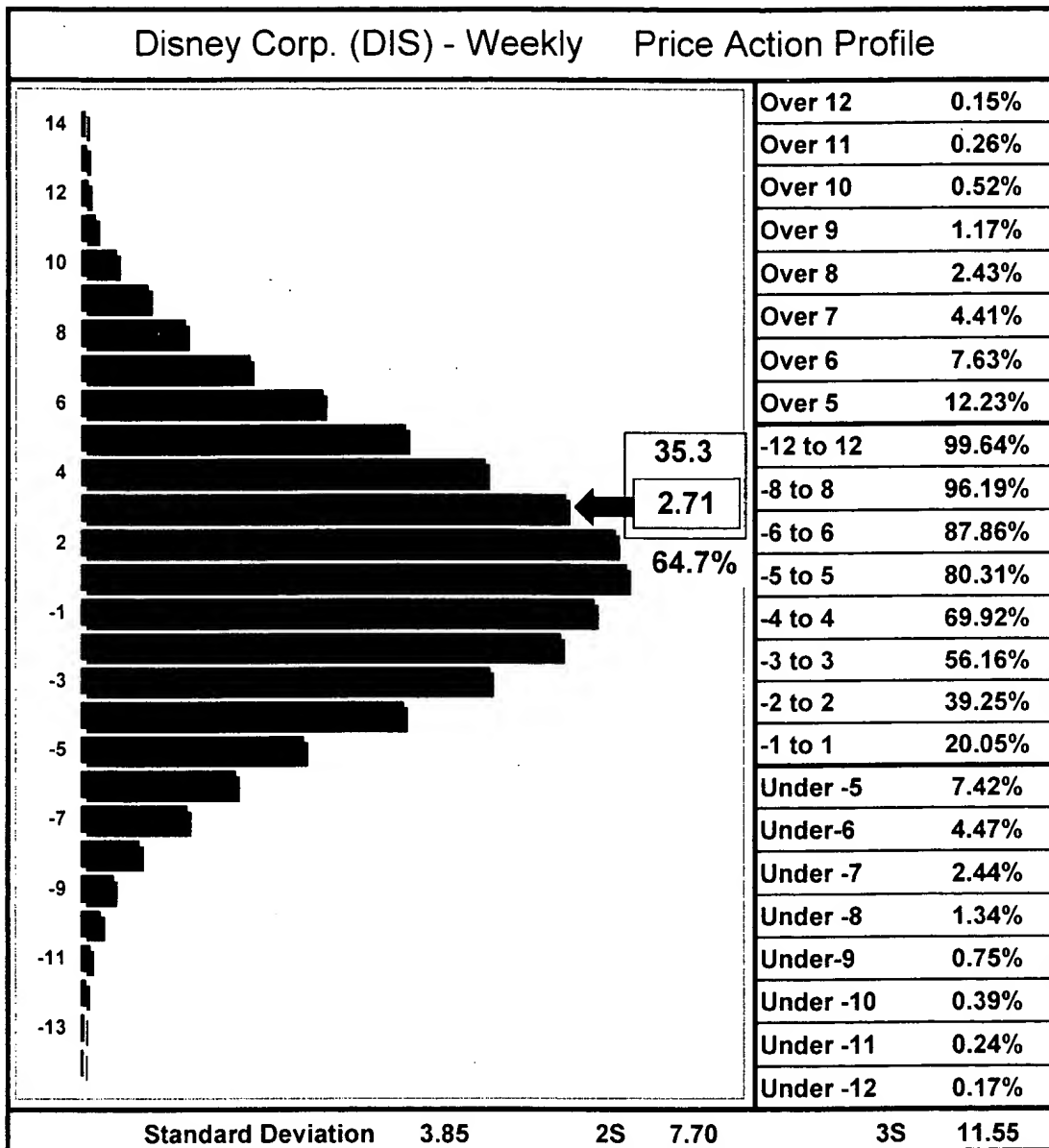


Figure 34 Example trading screen of the Price Action Profile™ concept applied to a weekly chart of Walt Disney Corp (displayed in figure 33).

Figure 35

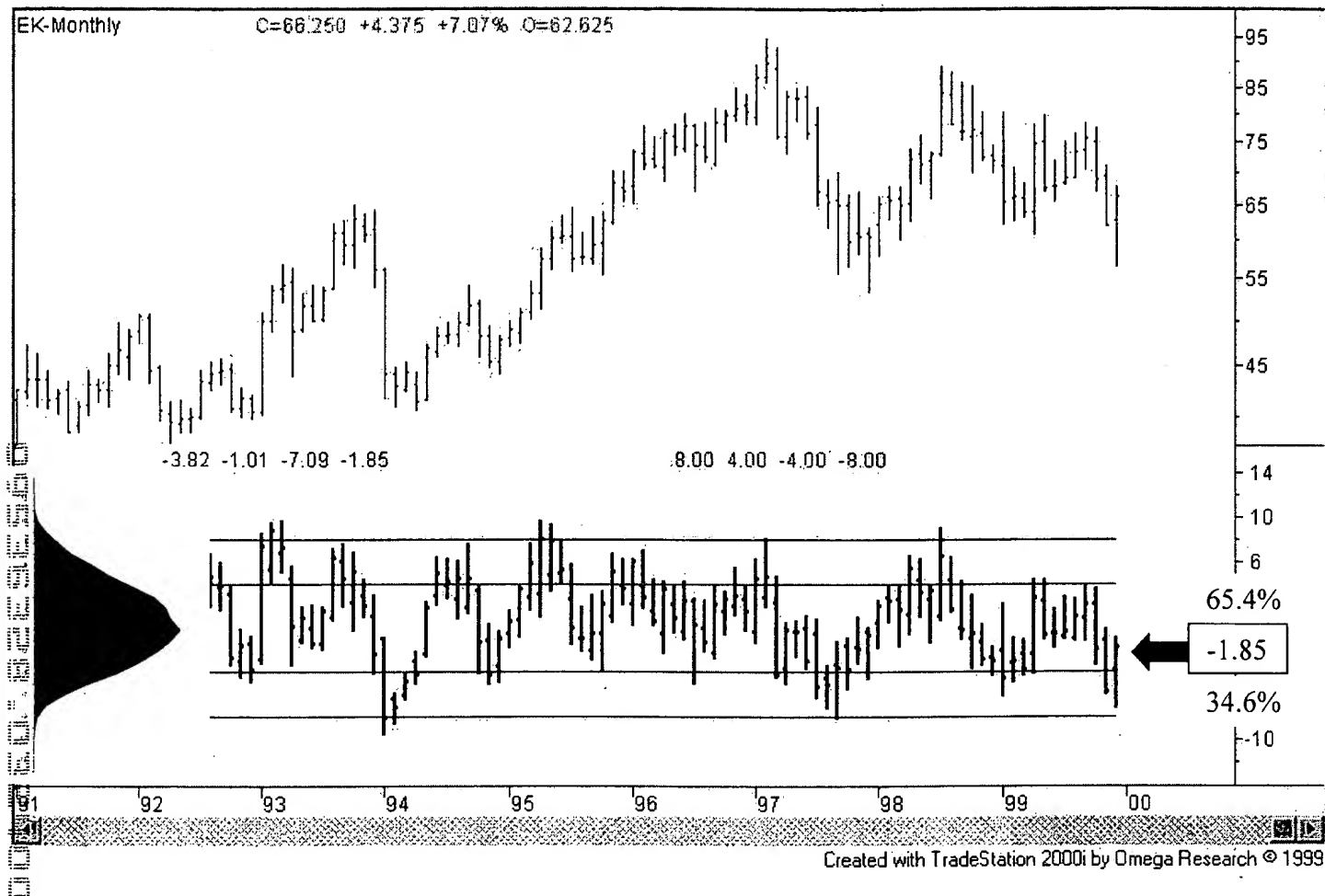


Figure 35 Example trading screen of the Value Chart™ and Price Action Profile™ concept applied to a monthly chart of Eastman Kodak.

Figure 36

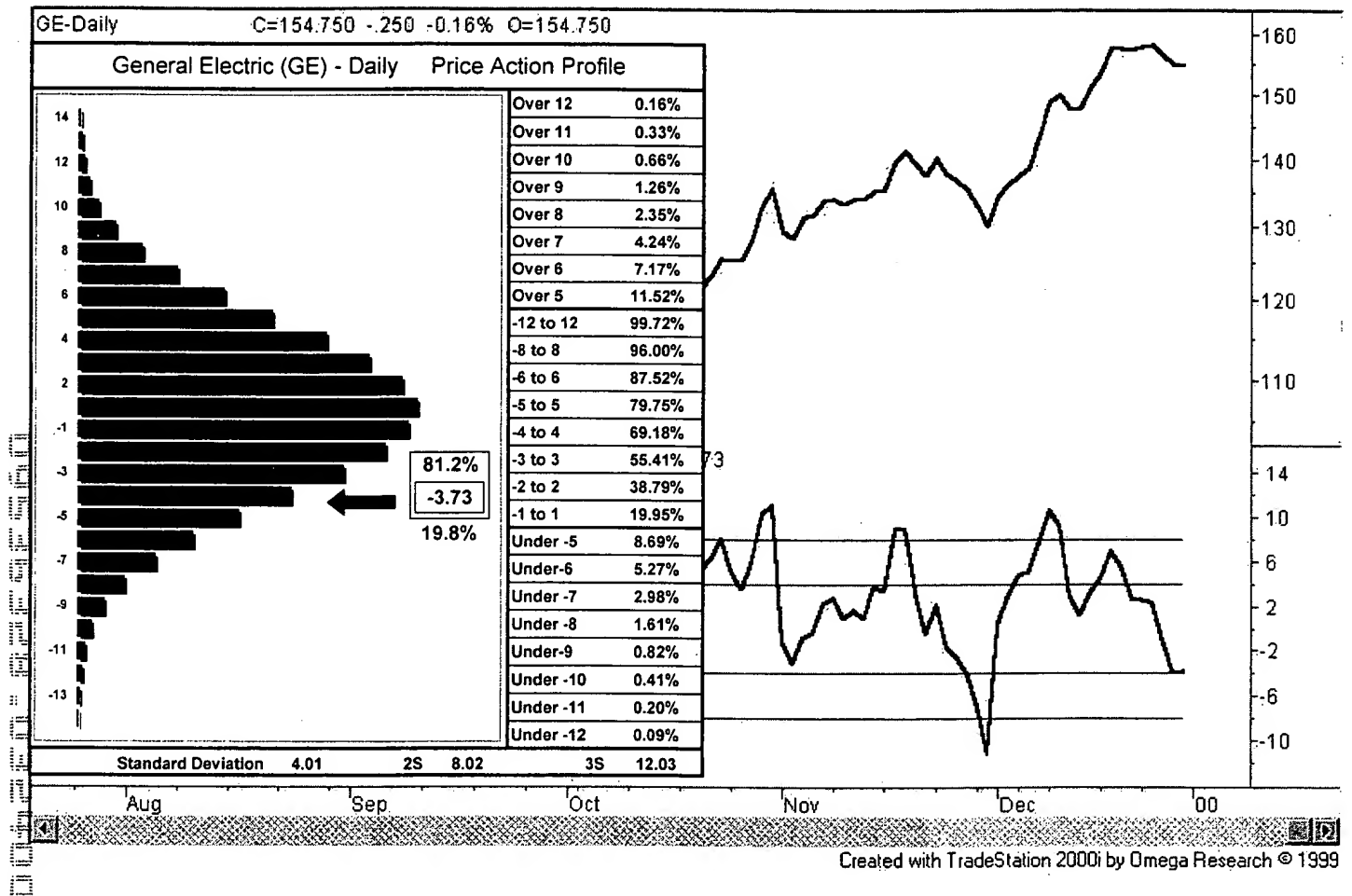


Figure 36 Example trading screen of the closing price and the Value Chart™ close and Price Action Profile™ (line) concept applied to a daily chart of General Electric.

Figure 37

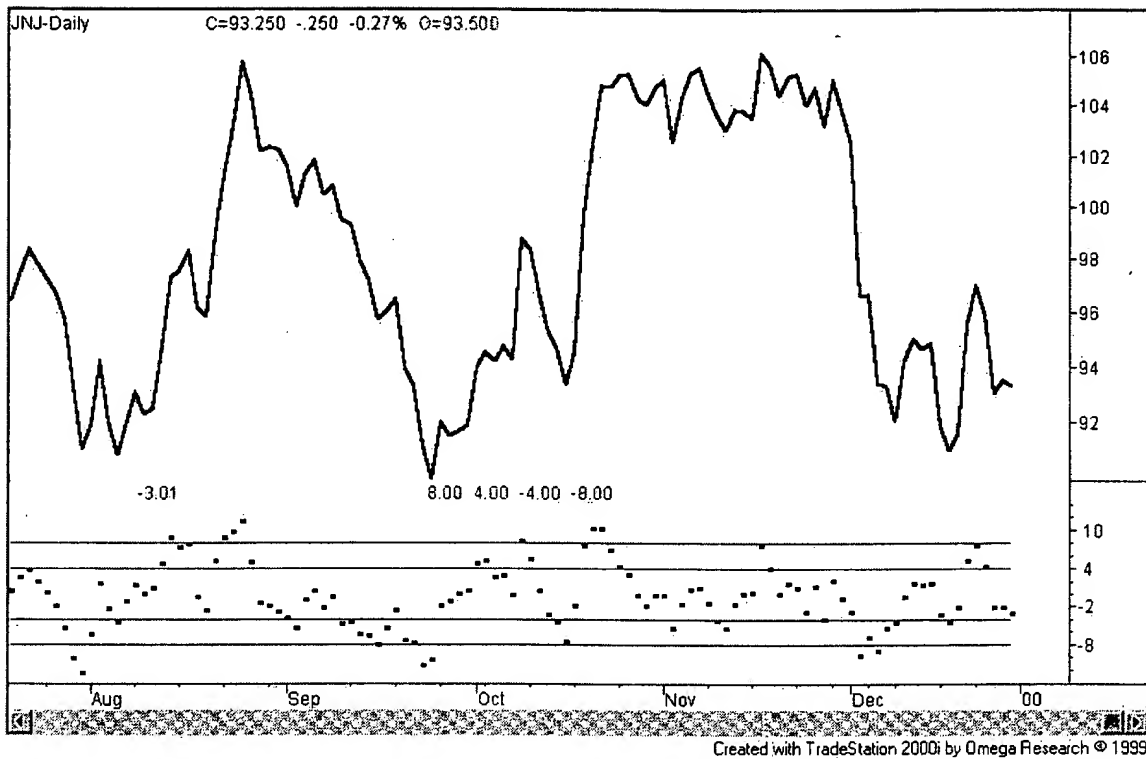


Figure 37 Example trading screen of the closing price and the Value Chart™ close concept applied to a daily chart of Johnson & Johnson.

Figures 38(a)(b)

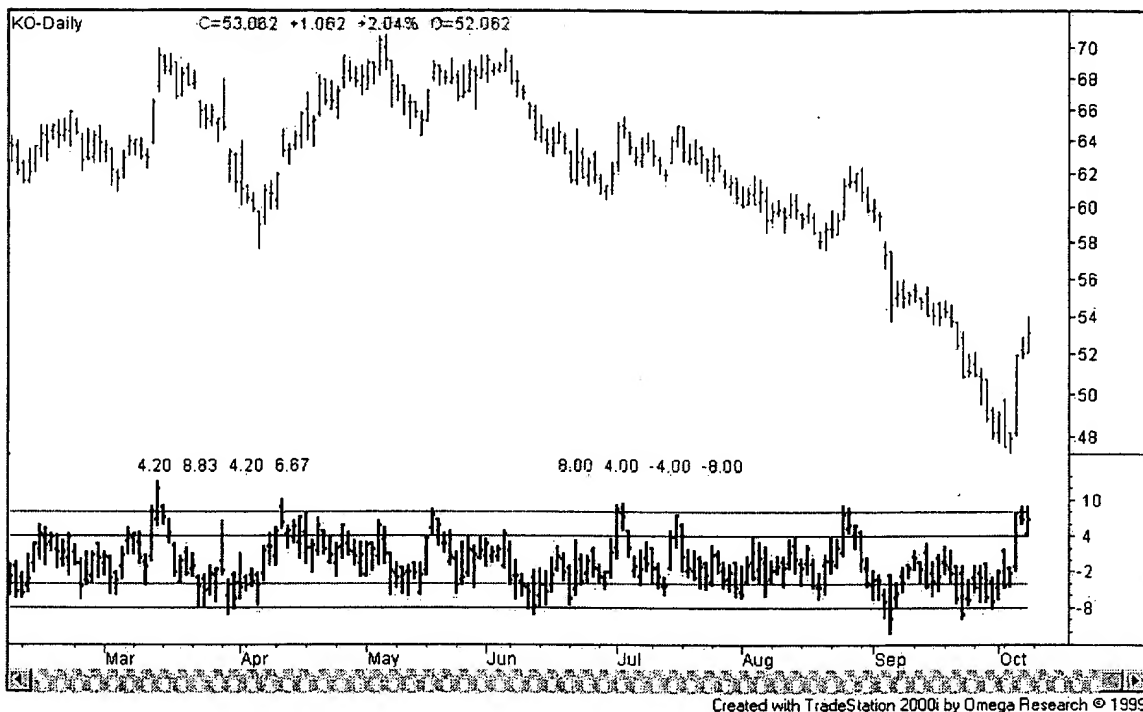


Figure 38a Daily Coca Cola with Value Chart™.

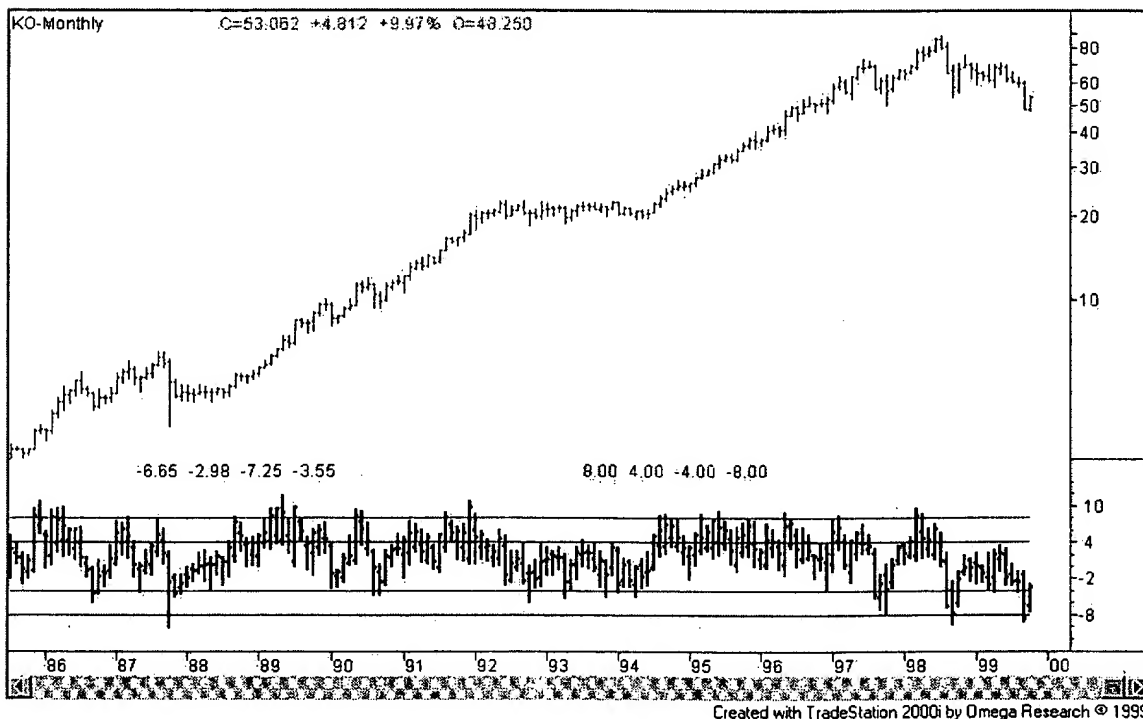


Figure 38b Monthly Coca Cola with Value Chart™.

Figure 39

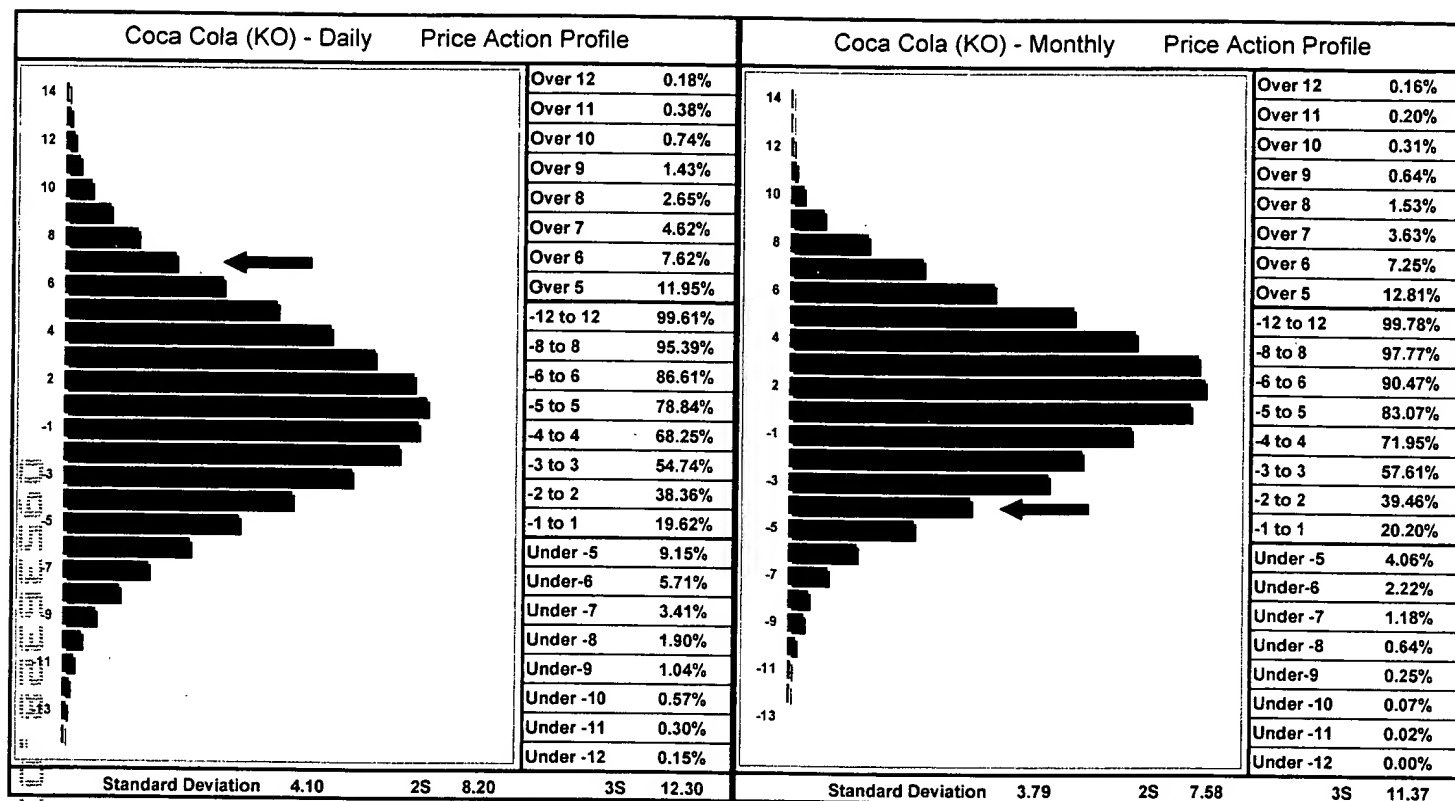


Figure 39 Price Action Profiles™ of Daily and Monthly Coca Cola Value Charts™ through October 8, 1999.

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| 5-Minute | 30-Minute | 60-Minute | Daily | Weekly | Monthly | Valuation |
|----------------|---------------|---------------|----------------|----------------|---------------|-----------------------|
| | | 0.6% 99.4% | | | | Moderately Overbought |
| | 4.2% 95.8% | | 12.0% 88.0% | | 8.5% 91.5% | |
| 26.5% 74.5% | | | | 18.8% 81.2% | | Fair Value |
| | | | | | | |
| | | | | | | Moderately Oversold |
| | | | | | | |
| Momentum ↓ | Momentum ↑ | Momentum ↑ | Momentum ↑ | Momentum ↑ | Momentum ↑ | |

Figure 40 Price Action Profile™ analysis from different timeframes in Crude Oil.

Figure 41

May-2000 Crude Oil (Time Spectrum Relative Valuation Grid)

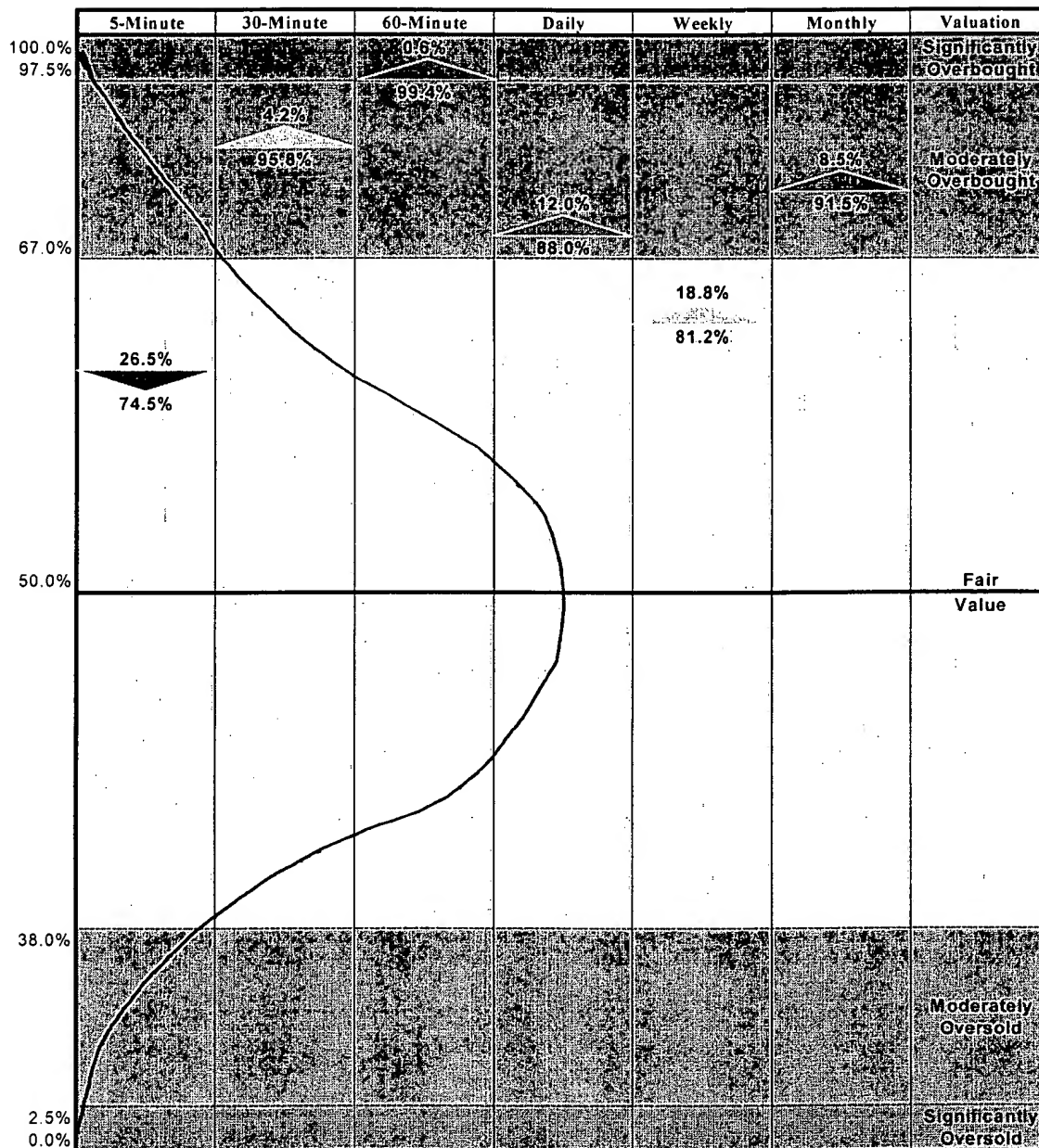


Figure 41 Price Action Profile™ analysis from different timeframes in Crude Oil with momentum arrow indicators.

Figure 42

Market Spectrum Relative Valuation Grid

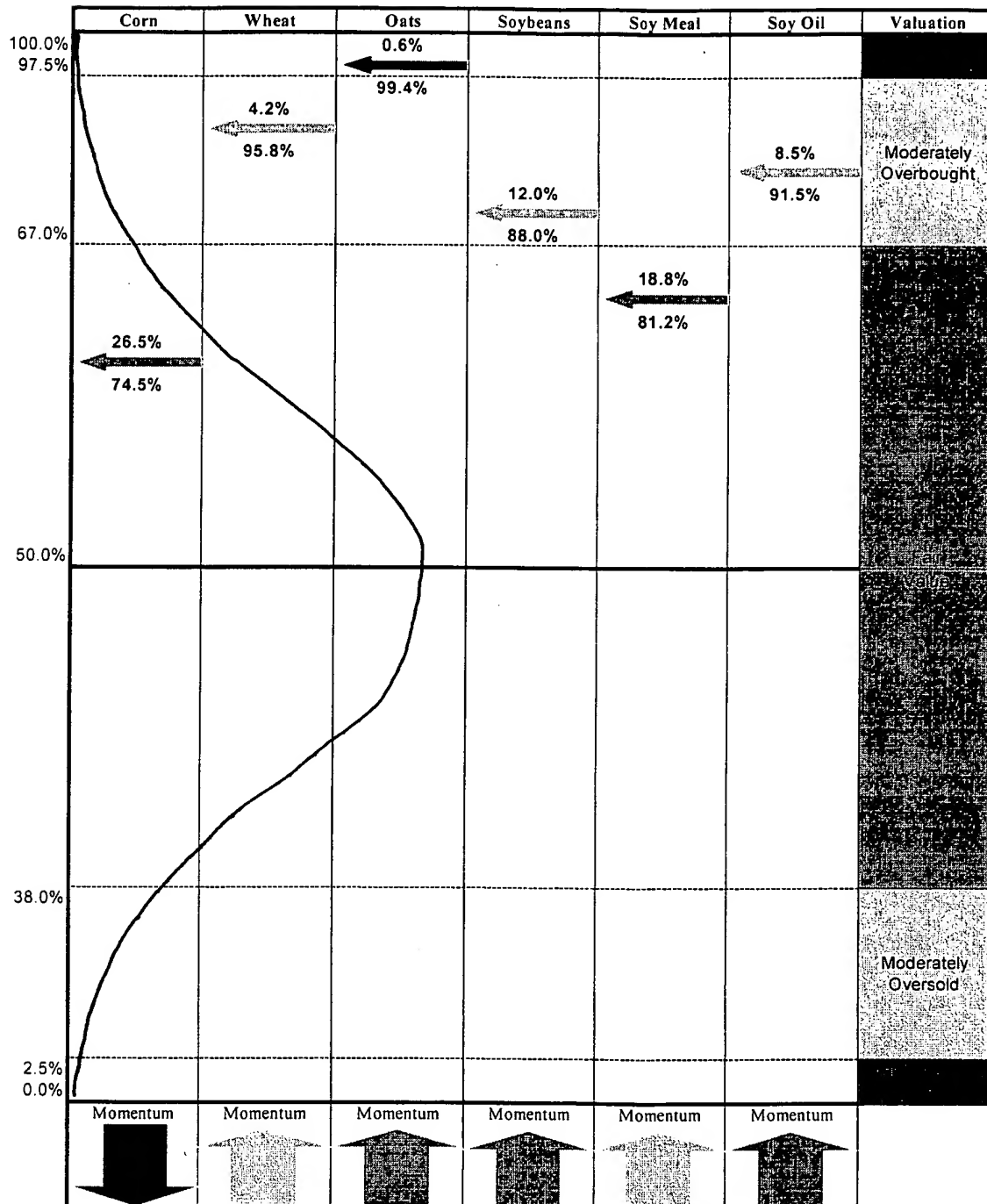


Figure 42 Price Action Profile™ analysis from different markets with momentum arrow indicators.

Figure 43

Daily Market Spectrum Relative Valuation Grid

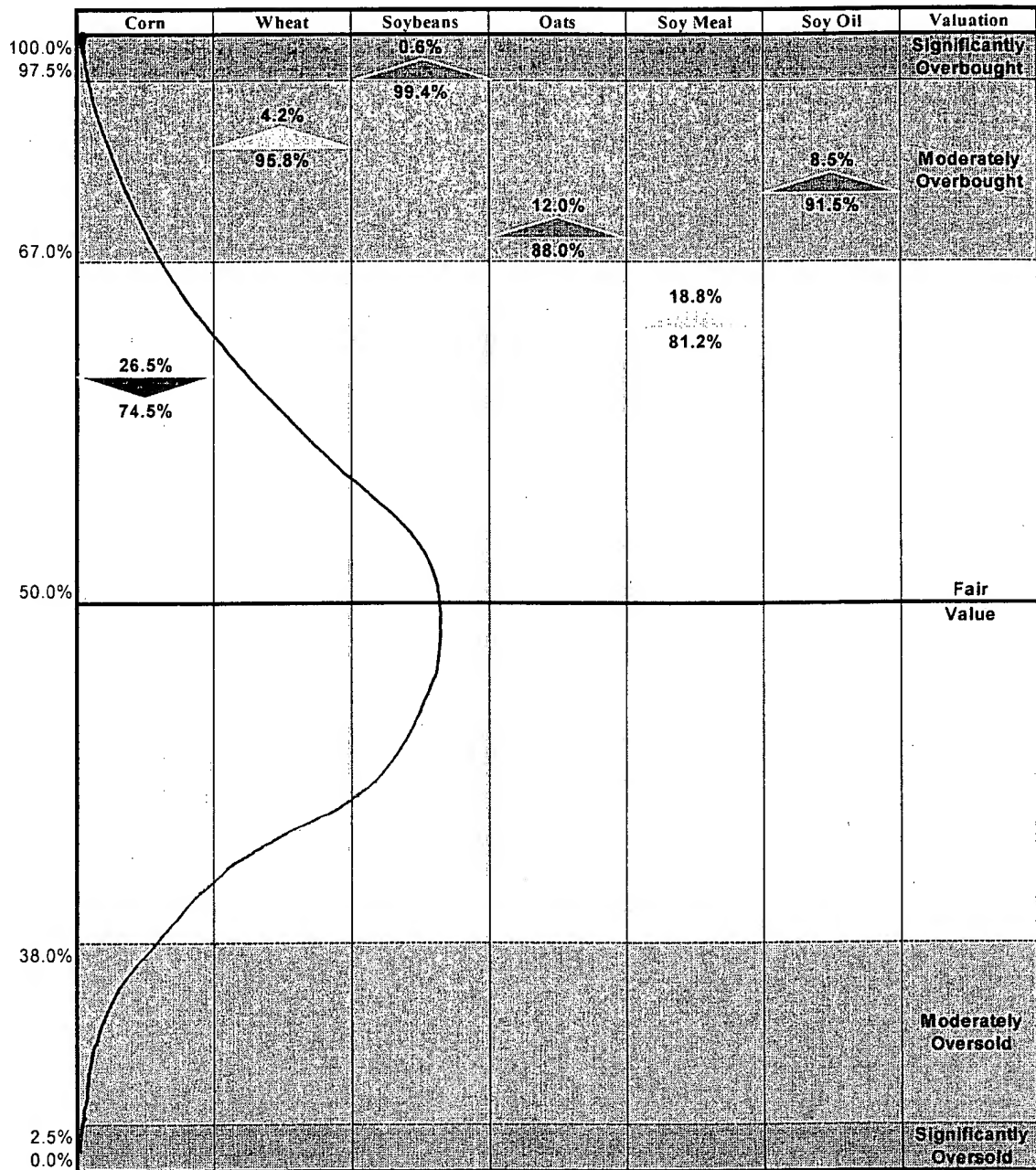


Figure 43 Price Action Profile™ analysis from different markets with momentum arrow indicators.

Figure 44

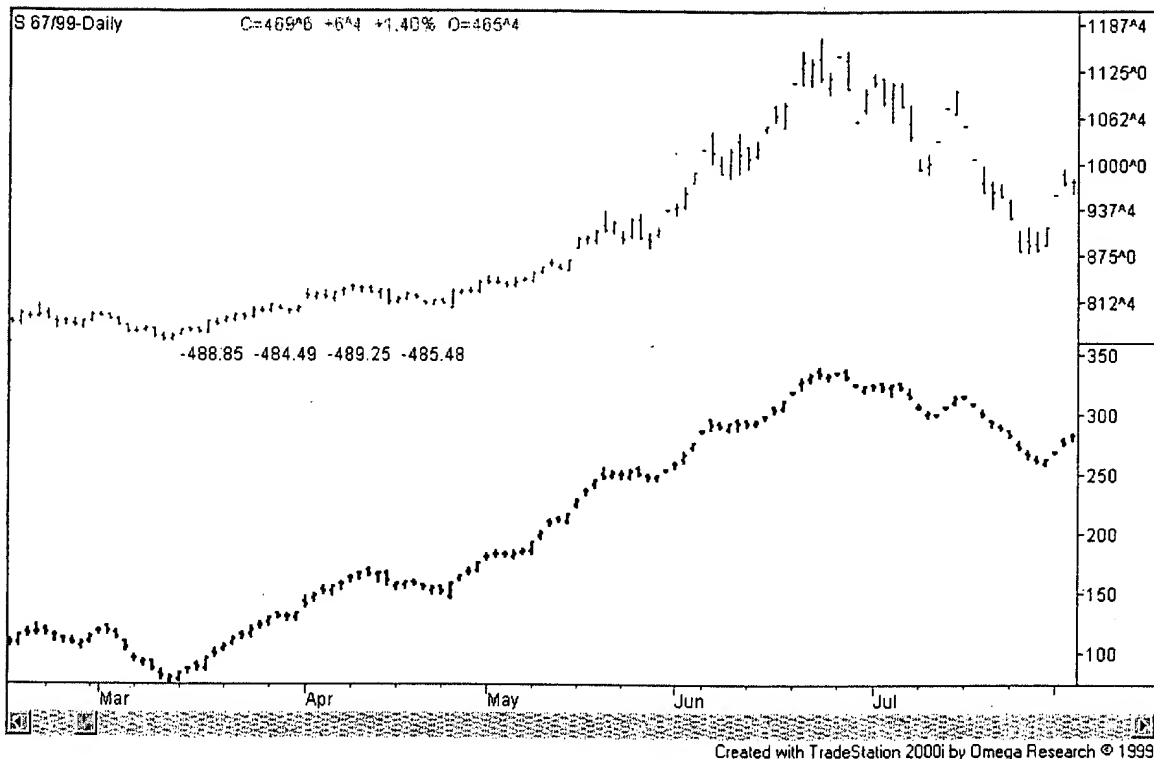


Figure 44 Value Chart™ transposed into a absolute chart (bottom).

Using the Value Chart™ formulas, a volatility adjusted absolute chart can be generated by simply adding the Value Chart™ open, high, low, and close prices to the previous Value Chart™ close. In other words, instead of plotting Value Chart prices with respect to the floating axis, this new volatility adjusted absolute chart (bottom of figure 44) adds the next price bar (price) to the previous bars close.